

Mdental

FALL 2017

UNIVERSITY OF MARYLAND SCHOOL OF DENTISTRY



**BIG QUESTIONS.
GREAT ANSWERS.**
Research at UMSOD



As I began this letter, I received news that faculty member Vineet K. Dhar, BDS, MDS, PhD, chief of the Division of Pediatric Dentistry, had been named the 2017 recipient of the Jerome B. Miller/Crest-Oral-B/For the Kids Award by the American Academy of Pediatric Dentistry. The announcement could not have been more timely, since this issue of *Mdental* features School of Dentistry faculty who are conducting novel, groundbreaking research that leads to discovery-based, patient-centered health care.

Our school's reputation is built on the world-class education we provide, unmatched clinical care we offer, and innovative research that not only transforms the lives of our patients, but also accelerates advances in the delivery of oral health care. Chief among our strategic priorities this year is widely communicating the school's impressive standing as a research-intensive institution that is rich in pioneering and collaborative discovery.

Our success as innovators, educators, and practitioners is a direct reflection of the steadfast dedication, fervor, and creativity of our esteemed faculty.

In this issue, through enlightening interviews, you will learn what inspires Associate Professor Dhar's passion for clinical research, how Associate Professor Mary Ann Jabra-Rizk, PhD, became interested in the sciences, and the curiosity that motivates Professor Huakun Xu, PhD, MS, to work in bone tissue engineering.

They are among the innovative faculty members who help make the school a leader in the oral health care profession.

You also will find an article describing the work of Professor Robert K. Ernst, PhD, who is exploring ways of transforming the lipid A component of the lipopolysaccharide molecule into a blocking molecule that ultimately could save lives by halting blood-borne bacterial infections.

The work of Professor Jin Y. Ro, PhD, is featured here as well. He is investigating the role of hormones in pain, with the aim of finding new ways of alleviating chronic pain among the elderly.

Their inspiring stories represent some of the cutting-edge research going on today at the University of Maryland School of Dentistry. I hope you will enjoy learning about our work.

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Dean and Professor

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SCHOOL NEWS



PHOTO BY SCOTT HESEL

▲ Former Baltimore Ravens fullback Brendon Ayanbadejo with Gary Hack during the American Diabetes Association's Call to Congress

COMBATING THE DIABETES EPIDEMIC

For years, Gary Hack, DDS '79, clinical associate professor and director of the University of Maryland School of Dentistry's simulation lab, has worked to increase dentistry's role in the battle to stem the diabetes epidemic. "I'm passionate about the 86 million pre-diabetic people who will become diabetic unless they change their lifestyles," Hack says. "Pre-diabetes is reversible, and dentistry can stop it."

At last, Hack's efforts are paying off. In January, a section titled "Screening in Dental Practices" was included in the latest edition of *Standards of Medical Care in Diabetes*, published by the American Diabetes Association (ADA). It represents the first time the journal has included a recurring section focused on dentistry. "This journal is the bible for physicians to deal with the diabetes epidemic," says Hack, the only dentist to serve on the ADA's Professional Practice Committee.

Because patients frequently visit the dentist twice yearly, oral health care providers are well-positioned to screen for diabetes or other diseases such as hypertension and osteoporosis, says Hack, who suffers from diabetes himself. Gum disease, for example, is a key indicator of a pre-diabetic condition.

In March, Hack served as the ADA's Maryland dental representative at the organization's 2017 Call to Congress session. The Maryland group met with the staffs of U.S. Senators Ben Cardin and Chris Van Hollen, as well as U.S. Reps. John Sarbanes and Andy Harris. In the meetings, group members advocated for accessible health care, affordable insulin, and funding for diabetes research and programs.

"We're spending \$322 billion a year on this disease alone," Hack says. "What I brought to the table at the Call to Congress is that the dental profession is primed to combat this epidemic."

— Scott Hesel

DECREASING RADIATION GETS A GREEN LIGHT

As Jeffery B. Price, DDS, MS, carefully moves the long, white cone toward the mannequin's open mouth, a green light goes on. "That means that the alignment is perfect," he says. "Once students are trained in this, I think they will find that it is really efficient and enjoyable to use because there's a high comfort level, and it increases accuracy."

Price, associate professor and director of the Department of Oral and Maxillofacial Radiology at the University of Maryland School of Dentistry, is demonstrating a new rectangular collimation technology that reduces the amount of radiation received by a patient during a dental X-ray.

Unlike other rectangular collimation devices, which have been in use for years, the machine alerts the practitioner when the beam and the receptor are correctly aligned. Produced by Tru-Image, it decreases scatter radiation, produces sharper images, and greatly reduces the incidence of "retakes" that are necessary, says Price.

In 2011, about 750 million dental X-rays were taken, according to the National Institute of Dental and Craniofacial Research, so reducing the number of retakes by even 10 percent is significant, Price says.

The school purchased 100 Tru-Image devices. In collaboration with Dale A. Miles, vice president of research and development for Tru-Image, Price created a training video last spring to aid in teaching students how to use the new technology. Training for first-year students began in March, and by midsummer all dental students had been taught to use the machines.

In the first round of training, says Price, the 44 students who learned to use the machines had an error rate of 2 percent when using the new technology. "Typically with graduating seniors, we are happy with a 10 percent error rate."

— Holly Selby

Jeffery B. Price, director of Oral and Maxillofacial Radiology at the School of Dentistry, and Dale A. Miles, vice president of research and development for Tru-Image, demonstrate rectangular collimation as part of a training video. ▼

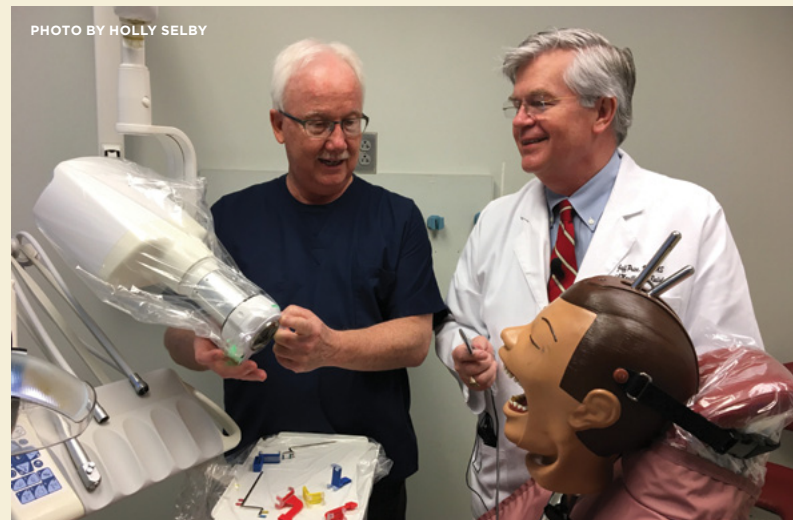


PHOTO BY HOLLY SELBY



PHOTO BY SCOTT HESEL

▲ Samantha Sykes and Marina Schmidt are the first students to enroll in UMSOD's new accelerated Dental Hygiene Baccalaureate to Master's of Public Health Program.

STUDENTS EMBRACE DENTAL HYGIENE TO MASTER'S OPTION

Growing up in New Jersey, Samantha Sykes visited the dentist twice a year and saw a physician when needed. "I was always taken care of, as health goes," says Sykes, a senior at the University of Maryland School of Dentistry (UMSOD).

Working in the school's dental clinics opened her eyes to how many people do not have access to health care.

"The number of patients we see—and the need—just blows my mind," Sykes says. "I'm not sure where these people would go if the school wasn't here."

Sykes is one of the first students to enroll in UMSOD's new, accelerated Dental Hygiene Baccalaureate to Master's of Public Health Program—made possible through a collaboration with the University of Maryland School of Medicine's Department of Epidemiology and Public Health. Participating students, who are enrolled in the Bachelor of Science degree program in dental hygiene, may take two graduate-level public health courses during their senior year. Because they pay undergraduate tuition rates for the graduate courses, they are able to save both time and money.

Sykes, who sees a vital need for public health programs that offer wider access to care, envisions using her BSDH and MPH for a career that will allow her to work in both clinical and academic settings.

Marion Manski, RDH '88, MS '04, director of UMSOD's Dental Hygiene Program, says that flexibility is the beauty of the new program, which is designed for students who wish to venture further afield into research, advocacy, and education.

"The master's degree will open many doors for me," concurs Marina Schmidt, a Harford County native. She initially planned a career as a hygienist, but now aspires to work more directly with special needs populations and with the geriatric community, creating public health programs. "I was interested because I did want to finish up with my master's to have greater flexibility in the future, and I realize how many needs nursing homes have."

— Gwen Newman

UMSOD PROFESSOR'S STARTUP COMPANY HONORED

FZata, Inc., a startup company co-founded by Hanping Feng, PhD, professor in the Department of Microbial Pathogenesis at the University of Maryland School of Dentistry (UMSOD), was named "Best Life Sciences Company" in June at the 2017 Maryland Incubator Company of the Year awards ceremony. Now in its 16th year, the honor is presented annually by a committee of regional leaders and early-stage investors in recognition of promising early-stage technology companies in Maryland.

FZata is an antibody technology company dedicated to developing therapeutic and preventive medicines against diseases. Feng's research is focused on the development of novel diagnostics, vaccines, and antibody-based immunotherapies against *Clostridium difficile* infection (CDI). More than 29,000 deaths in the United States are caused annually by antibiotic-resistant *C. difficile*; globally the infection is considered an urgent public health threat.

Feng's team has developed two candidate drug products: an intravenous, fully humanized, tetra-specific, antibody product (FZ001) designed to treat ongoing infection and to prevent recurrence, and an oral, probiotic, yeast product (FZ002) that secretes the antitoxin at the site of infection.

Both drug candidates have been evaluated in animal models of human infection and reveal superior efficacy against the infection than that of other models.

Since 2011, when he came to UMSOD from Tufts University, Feng has been awarded 14 grants or contracts totaling \$15 million. Most recently, FZata received a \$5.6 million R01 to enable development of lead therapeutics against CDI.

— Holly Selby

Hanping Feng, professor in the Department of Microbial Pathogenesis, is working to develop therapeutic and preventive medicines against enteric pathogens. ▼



PHOTO BY SCOTT HESEL

WORD OF MOUTH

STORIES BY HOLLY SELBY



From left, Redskins tight end Vernon Davis, a Green Street Academy middle school student, and Redskins defensive lineman A.J. Francis strike a pose.



Prosthodontist Michael Wright, owner of The Wright Guard, finishes his innovative mouth guard design.

Sitting, from left, Redskins players A.J. Francis, Kendall Fuller, and Vernon Davis sign autographs for middle school youths at an UMSOD event marking National Facial Protection Month.

Listen Up

MICHAEL WRIGHT, DDS '99, MS '02, AND NFL PLAYERS DISCUSS MOUTH GUARDS WITH MIDDLE SCHOOL STUDENTS

The huddle, made up of Washington Redskins players, dentists, and middle school students, was about how to protect your teeth—and the value of a good education.

Michael Wright, DDS '99, MS '02, and three National Football League players visited the Dr. Samuel D. Harris National Museum of Dentistry and the University of Maryland School of Dentistry (UMSOD) last spring to celebrate National Facial Protection Month and spread awareness about avoiding injuries to the mouth and face. They also offered advice about how to design a “game plan” for lifelong success.

On campus as Wright’s guests, NFL players Vernon Davis, tight end; A.J. Francis, defensive lineman, both former Maryland Terrapins; and Kendall Fuller, cornerback, a former Virginia Tech Hokie, discussed good oral health. They also urged the 35 students from Baltimore’s Green Street Academy to continue their education and listen to their elders. “There’s a saying that goes, ‘Fast to listen, slow to speak,’” said Davis, whose NFL career spans 12 years and who appears in the recently released film *Baywatch*.

“Whenever we listen, we always find ourselves in a great spot, a great area. We transcend, we continue to go on in life, and we make it,” Davis said. “We make it far because we listened. ... If you take care of yourself, and you continue to listen to people like Dr. Wright and my teammates, you’ll go a long way.”

Five million teeth, mainly front teeth, are knocked out each year in the United States, and 60 percent of facial injuries occur during sports practices, according to the

Family Health Administration, Maryland Department of Health. However, about half of all dental injuries can be prevented. Citing the statistics, Wright, a prosthodontist and entrepreneur who has designed and patented a better-fitting, magnetic-tethered mouth guard, said, “It makes sense to do everything you can to prevent such injuries.”

About six years ago, Wright began handcrafting mouth guards for boxers and pro football and basketball players. When youths began requesting mouth guards similar to those worn by their sports heroes, Wright spent two years researching ways of standardizing and making affordable mouthpieces that could be mass-produced. Now the owner of The Wright Guard company, Wright aims to educate all athletes about the need for mouth guard protection, as well as elevate the role of dentists in professional sports overall.

Fuller said when he first began playing in the NFL, he did not bother wearing a mouth guard. “The NFL doesn’t require mouthpieces so I just did what everybody else did,” he told the students. “But the more I learned about the injuries the more I wanted to protect my teeth.”

After their remarks, the athletes, all of whom wear mouth guards custom-designed by Wright, signed autographs and posed for photos with the Green Street Academy students, who also toured the museum. Wright and the players then visited the School of Dentistry, where they gave a more technical presentation to the dental students.

After the presentation, cake—decorated as a far-larger-than-life-size replica of a protective mouthpiece designed by Wright—was served.

Building a Better Mouth Guard

Autographed jerseys, once owned by Washington Redskins, Baltimore Ravens, San Francisco 49ers, and other NFL players, line the walls of the Smile Design Studio, a boutique-style dental office based in Bethesda, Md., and owned by Michael Wright, DDS '99, MS '02.

On a lobby shelf sit a helmet and a football autographed by 2017 Pro Bowl MVP Lorenzo Alexander of the Buffalo Bills. Mouth guards line other shelves, but not just any mouth guards: One was worn by Alexander in the Pro Bowl; another belonged to DeAngelo Hall of the Redskins; still another was worn by Golden Tate, wide receiver and punt returner for the Detroit Lions. Tate’s blue-and-white mouth guard is inscribed with the word: “Showtime.”

To be sure, patients come to the Smile Design Studio for a full range of oral health services, but Wright, a prosthodontist, also has dedicated years to researching how to build a better mouth guard.

Mouth guards are not mandatory in the NFL, but Wright aims to challenge NFL protocols pertaining to mouth guards and educate professional athletes about the need for better protection for teeth and faces. “When I began researching mouth guards, I realized that mouth guards are being manufactured by people without any dental knowledge,” he said. “That makes no sense.”

While a student at the University of Maryland School of Dentistry (UMSOD), Wright earned a reputation as a highly talented innovator. In his fourth year, he served in an externship to create dentures for Navajo Indians in Arizona.

Wright first designed a customized mouth guard for Vincent Fuller, formerly of the Tennessee Titans. As word about the device got around, Wright received requests from other NFL players including Vernon Davis,

Patrick Willis, and Kyle and Kendall Fuller, as well as professional basketball players and boxers.

In addition to creating mouth guards designed and handcrafted specifically for each player’s mouth, Wright adds decorative touches upon request from inscriptions to details such as fangs, skeletons, team logos, or diamond studs.

“The mouth guard lets you run, talk, and breathe in the middle of a game because it fits better,” said the Bills’ Alexander, who has been wearing one of Wright’s mouth guards for about five years. “I feel like it is better aligned, and because it fits better, you’re not biting down so hard and tensing up.”

The fit of The Wright Guard mouthpieces also is appreciated by Torrey Smith, former Raven and wide receiver for the Philadelphia Eagles. “His mouth guards are so comfortable that I keep them in sometimes on the sidelines. They don’t bother me when I talk,” he said.

“I get different colors and designs. I mix it up from time to time: Sometimes my mouth guard is all gold, black and gold, red and gold. Once I had one that looked like fangs.”

A few years ago, youths began requesting Wright’s designs, too. But the customized mouth guards cost \$2,500 and up, said Wright, so he researched how to mass-produce them at a lower cost. After two years of collecting data, Wright developed a standard mouth guard, obtained a United States patent, and began selling the guards online, through his dental practice, and in independent stores. Now youths aged 7 years and older can purchase brightly colored, better-fitting mouth guards costing from \$19.99 to \$29.99—and designed according to Wright’s research.

Translating Research into Practice

In June 2016, David Harnick, DDS '75, MSD, an orthodontist based in Albuquerque, N.M., wanted a critical examination of his work. He joined the Southwest Region of the National Dental Practice-Based Research Network (NDPBRN)—a group of dental practitioners who collect and record data during their day-to-day patient care with the goal of answering community-based health care questions and translating research into practice.

For a year, Harnick meticulously documented treatment for three patients with anterior open bite, a condition in which the maxillary and mandibular molars occlude first in mandibular closure, leaving the anterior teeth out of contact. He submitted initial patient records to the NDPBRN for approval and documented his treatment plan. The patients, in turn, submitted information about why they were seeking treatment. Once a patient was accepted as a study participant, Harnick performed and documented the treatment in detail.

A year later, when the patient returned for an examination, Harnick recorded any follow-up care provided, and the patient completed a questionnaire.

The payoff for Harnick came at the annual meeting of the American Association of Orthodontists (AAO), when he could compare his data with that gathered by more than 100 other dentists.

Providing the best treatment is the long-term goal of PBRNs, says Thomas Oates, DMD, PhD, professor and chair of the Department of Advanced Oral Sciences and Therapeutics, who plans to launch a new regional PBRN based at the University of Maryland School of Dentistry (UMSOD). "I'm going to reach out to our alumni in the coming months to see who is interested."

PBRNs offer practitioners information that reflects actual treatment scenarios, says Oates. "These studies extend what is found in clinical trials by investigating how well treatment



Thomas Oates ▲

works in the real world of clinical practice. Hopefully, it also helps us get new findings into practice sooner."

It typically takes about 17 years to bring scientific discovery into clinical practice, Oates says. PBRNs could potentially close this gap.

In 2008, while serving as assistant dean for clinical research at the University of Texas (UT) Health Science Center Dental School, Oates launched a regional PBRN. Called the South Texas Oral Health Network (STOHN), the group grew to include 60 dental practitioners in south Texas who worked collaboratively with the UT Health Science Center.

In 2012, Oates, supported by a seven-year, \$4.5 million National Institutes of Health subcontract from the NDPBRN, expanded STOHN into the Southwest Region of the research network, reaching across Texas and into Oklahoma, New Mexico, Arizona, and Kansas.

The Southwest Region now includes more than 1,000 practitioners. "We engage practitioners in all phases of study development, meet with them, see what concerns they have in practice, and where they feel research is needed," Oates says.

For Harnick, being involved with a PBRN was invaluable: "It's exciting to get real-life, practice-based research and findings."

PBRNs offer practitioners another way to give back to their profession. With help from the UMSOD alumni, Oates hopes to build a great PBRN program. "The more people sign up, the more data we'll get."

— Scott Hesel



FOR MORE INFORMATION,
contact Thomas Oates at toates@umaryland.edu.

LICENSING RIGHTS FOR NEW VACCINE TECHNOLOGY



Mark Shirtliff

"Without clinical innovations, we may see a return to the pre-antibiotic era where *S. aureus* bacterium resulted in a 90 percent death rate,"

The University of Maryland, Baltimore (UMB) recently granted worldwide, exclusive licensing rights for a new vaccine technology to Serenta Biotechnology, LLC, a Gaithersburg, Md.-based startup.

Drawing on technology co-owned by UMB and Northern Arizona University, the license is the basis for a multivalent vaccine against infections caused by *Staphylococcus aureus*, a bacterial strain often resistant to antibiotics.

says Mark Shirtliff, PhD, lead inventor, co-founder, and chief scientific officer of Serenta Biotechnology, who is a professor in the Department of Microbial Pathogenesis at the University of Maryland School of Dentistry.

"Serenta's collaboration with the University of Maryland has been instrumental in advancing our vision of commercializing a methicillin-sensitive and methicillin-resistant *Staphylococcus aureus* [MSSA and MRSA] vaccine."

The National Institutes of Health estimates that up to 80 percent of all microbial infections are chronic, and one of the most prevalent causes of chronic, persistent bacterial infections is *Staphylococcus aureus*, due in part to its ability to form antibiotic-resistant biofilms.

SEEKING KEYS *to* CHRONIC PAIN RELIEF

STORY BY RANDOLPH FILLMORE

Jin Y. Ro, PhD, a professor in the University of Maryland School of Dentistry's Department of Neural and Pain Sciences and the University's Center to Advance Chronic Pain Research, is seeking ways to alleviate the chronic pain that seems an inevitable accompaniment to aging. He is the primary investigator in a study, funded by the National Institute on Aging at the National Institutes of Health (NIH), that explores treatment for pain caused by osteoarthritis, a chronic disease for which there is no cure that affects as many as 27 million people in the United States.

Ro and his colleagues are investigating the role the male hormone, testosterone, plays in pain and how opioid receptors located in the peripheral nervous system might be modified by doses of testosterone. Opioids are highly addictive narcotics that also have unwanted side effects, such as drowsiness, constipation, and vomiting. Finding ways to reduce or eliminate pain without these side effects could significantly improve the quality of life for many.

"Those over the age of 65 are in the nation's fastest growing demographic," explains Ro. "Elderly people may experience pain differently than younger people and often are unable to clearly describe their level of pain. They also may be on multiple medications for a number of conditions, and that can be a problem when treating their pain."

Ro and his colleagues, Rui-Xin Zhang, PhD, assistant professor in the Center for Integrative Medicine, University of Maryland School of Medicine, and Glenn Ostir, PhD, director of the Institute of Gerontology, University of Georgia, are focusing on how testosterone affects pain in

the peripheral nervous system when it is targeted at opioid receptors in specific sites, such as knee and hip joints.

"The aging processes naturally reduce testosterone levels. In this first phase of research, we are using elderly rodent models chemically induced to have localized inflammation, swelling, and pain in knee joints—the symptoms of osteoarthritis," explains Ro. "Low doses of opioids stay localized and do not produce many unwanted side effects mediated by opioid receptors located in the central nervous system."

After the animals are modeled with symptoms similar to those of osteoarthritis, they receive varying amounts of testosterone and then are evaluated on how their weight-bearing behaviors may improve with opioid treatment.

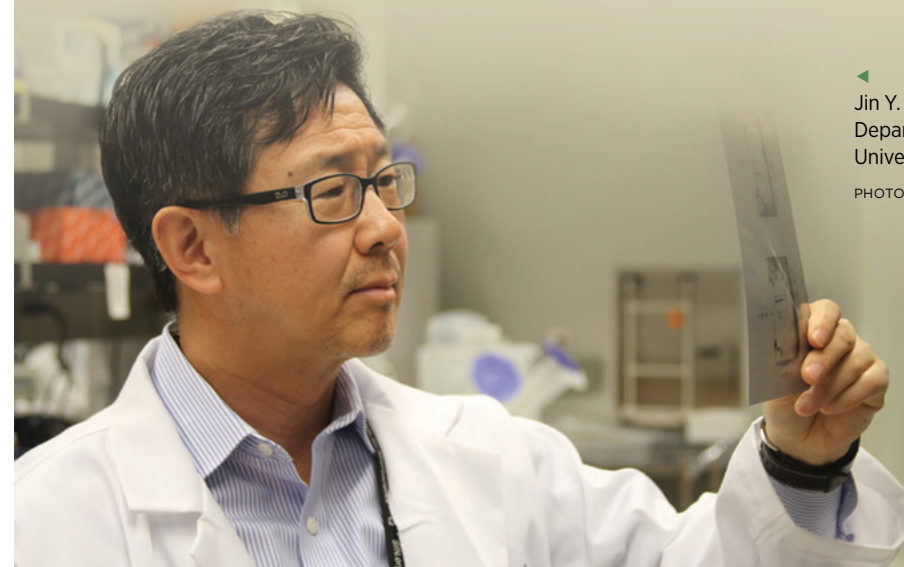
Although research has established that testosterone replacement can reduce pain in men with lowered testosterone, its use is still controversial because the mechanism has not been explained, Ro says. He and his colleagues hope to provide answers to how and why testosterone helps reduce pain.

Ro, who grew up in Baltimore after he and his parents emigrated from South Korea, earned his PhD in neurophysiology at the University of Maryland, Baltimore Graduate School and completed postdoctoral work at the New York University School of Medicine. In 2002, he joined the faculty at the School of Dentistry.

"Under the leadership of Dr. Ronald Dubner and department chair Dr. Joel Greenspan, this department is well-known as a prominent pain research group," Ro says. "I am fortunate to be here interacting with an excellent team of colleagues who have devoted their careers to studying pain."

◀ Jin Y. Ro, a professor in the School of Dentistry's Department of Neural and Pain Sciences and the University's Center to Advance Chronic Pain Research

PHOTO BY SCOTT HESEL





Following the Molecule

BY RANDOLPH FILLMORE

When sepsis strikes, it causes the body to attack and damage itself, sometimes fatally. Robert K. Ernst and his colleagues aim to design a molecule that will inhibit the body's immune response to this deadly bacterial infection.

A death from sepsis occurs every two minutes in the United States. Worldwide, the blood-borne bacterial infection that triggers an immune response that damages the body's own tissues and organs, affects an estimated 30 million people, according to the Sepsis Alliance, a nonprofit association dedicated to raising awareness about the disease.

"The risk of mortality from sepsis is 30 percent," says Robert "Bob" K. Ernst, PhD, professor in the Department of Microbial Pathogenesis at the University of Maryland School of Dentistry (UMSOD) and an adjunct professor at the University of Maryland School of Medicine. "This rises to 50 percent with severe sepsis and 80 percent for those experiencing septic shock. Even those who survive are at risk for long-term effects that include amputations, anxiety, memory loss, chronic pain and fatigue, and poor cognitive function."

Ernst, who has focused his career on unraveling the intricacies of the bacterial membrane and the often life-threatening infections caused by bacteria, took up the fight against sepsis while a postdoctoral fellow. Since then, his goal has been to use knowledge gained through intensive laboratory investigations to save lives. Eighteen years later, he shows no signs of backing off from the hunt and can be found on the ninth floor of UMSOD doing what he and his laboratory members call "following the molecule."

A DIFFERENCE IN CELL MEMBRANES

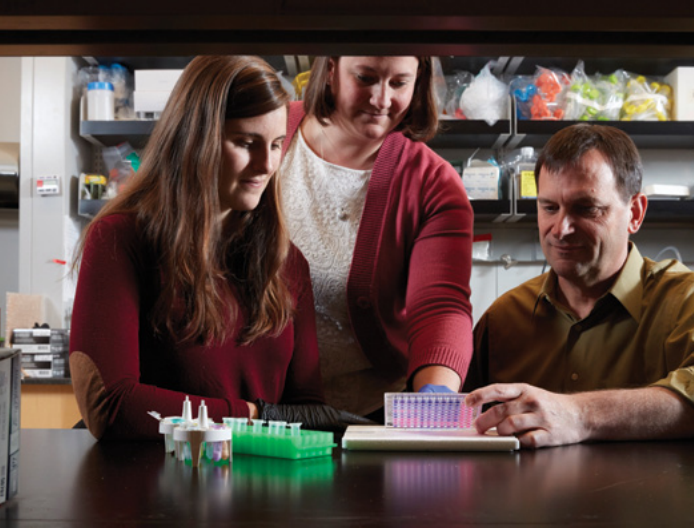
A few years ago, Ernst had an "aha!" moment that drew upon work he had done as a research associate professor at the University of Washington. It dawned on him that the lipid A component of the lipopolysaccharide molecule (LPS) might be made into a blocking molecule. This molecule might then inhibit the stimulation of the Toll-like receptor 4 (TLR4), which is essential to the triggering of an immune response, and which then can lead to inflammation. The next step was to design preliminary blocking molecules classified as "anti-sepsis lipid A," or ASLA, that are bound to TLR4 and do not result in the damaging effects of inflammation.

Ernst studies several bacteria, both Gram-negative and Gram-positive. The difference between the two lies in cell wall structural differences, made visible by staining. Bacteria that retain crystal violet dye do so because of a thick cell wall and are called Gram-positive bacteria. Gram-negative bacteria, which do not retain the violet dye and are colored red or pink, are more resistant to antibiotics because of their cell wall lipid composition.

"Over 60 percent of sepsis cases are caused by Gram-negative bacteria," he says.

TO VIEW DR. ERNST DISCUSSING HIS RESEARCH, visit www.dental.umaryland.edu/ernst

◀ Robert "Bob" K. Ernst, professor in the Department of Microbial Pathogenesis at the School of Dentistry



With the goal of suppressing the overwhelming immune response from a bacterial infection, the Ernst laboratory has developed novel mimetics that inhibit the cytokine storm associated with sepsis. From right, Ernst with postdoctoral fellow Erin Harberts, PhD, and graduate student Courtney Chandler.

TAKING AIM IN THE FIGHT AGAINST SEPSIS

The focus in the Ernst laboratory is on understanding the molecular basis by which the Gram-negative bacteria modify the lipid A component of LPS and how alterations affect antimicrobial resistance and normal host immune system responses.

“Our current research has several very specific aims,” explains Ernst, whose work in the fight against sepsis is funded by grants from the National Institutes of Health (NIH) and from the University of Maryland Ventures Seed Grant Funding. Last year, he also received a \$25,000 University of Maryland Ventures Grant.

Ernst and his colleagues want to better understand how the ASLA molecules interact and alter TLR4 recognition, as well as design better ways of evaluating the ASLA candidate molecules. They also want to come up with methods to improve lipid A structure analysis and screening from extracts and tissues. Finally, they want to evaluate the pharmacodynamics of ASLA therapeutics in animals modeled with Gram-negative sepsis.

Only then can he and his collaborators come up with a potential sepsis treatment, likely an injectable.

Although raised among rolling green hills, Ernst appreciates the “lack of green space” between buildings at the University of Maryland, Baltimore (UMB). The proximity of the Schools of Medicine and Pharmacy, the clinical labs, and the Institute for Genome Sciences makes it easier and more efficient to collaborate with the faculty from other schools. “At many other universities, the building where people do chemistry and the building where people do microbiology might be a 20-minute walk apart. Here, my collaborators are across the street and one block west.”

His UMB collaborators on the NIH-funded sepsis proposal include the University of Maryland School of Pharmacy's David R. Goodlett, PhD, professor of pharmaceutical sciences who studies the structure-function relationships of lipid A and worked closely with Ernst in Seattle; Alex MacKerell Jr., PhD, Grollman-Glick professor of pharmaceutical sciences and director of the Computer-Aided Drug Design center; Hazem E. Hassan, PhD, MS, RPH, RCDS, assistant professor and director, Pharmacokinetics and Biopharmaceutics Laboratory, Department of Pharmaceutical Sciences; and Peter Swaan, PhD, professor of pharmaceutical sciences and associate dean for research and graduate education.

FOR THE LOVE OF SCIENCE

Growing up in rural Geneva, N.Y., surrounded by cows, orchards, and the grapevines of the nearby Finger Lakes, Ernst became interested in science early on. “I had the classic, great high school biology teacher,” he says with a broad smile. “Her name was Edith Braun, and she was a great mentor!”

His lifelong love affair with science began less with the tools of the trade—the beakers, test tubes, and microscopes—than a passion for discovery.

“I like being the first person to see something, then spreading the discovery,” he says. “If that’s not your drug, then you are in the wrong profession. I come to work because I love being here, and it’s great to work with people who do what they do for the love of science.”

The pursuit of scientific discovery led him from the high school biology lab to a bachelor’s degree in biology at SUNY Oswego, to a master’s degree in microbiology at the University of Buffalo, to a doctorate in microbiology at the University of Virginia. He followed that academic path “not knowing exactly where I was going to end up. I kept going because research was fun.” Not until encountering high-powered research at UVA, he says, did he truly know it was for him.

After 11 years of postdoctoral work and as research faculty at the University of Washington, he began looking for new opportunities.

In 2008, Ernst accepted a position at UMSOD, a setting with plenty of opportunities to collaborate and continue searching for a way to stop sepsis in its early stages.

Ernst is juggling other projects as well, all aimed at ultimately enhancing patient care. For example, according to Ernst, there is an urgent need to develop effective vaccines against a variety of infectious diseases that continue to be a major cause of morbidity and mortality worldwide. He and his colleagues are also engaged in making effective vaccines that require developing novel adjuvants to strengthen an appropriate and protective immune response.

In addition, Ernst and Goodlett co-founded a startup diagnostic company called Pataigin. Last fall, the company received a \$25,000 Maryland Department of Commerce Life Award for its patented test called “BACLIB,” which inexpensively identifies bacteria- and fungi-caused infections in less than an hour, allowing clinicians to make decisions in the hospital at the “point-of-care.”

FIGHTING THE ‘CYTOKINE STORM’

An opportunity to help shape future dental clinicians intrigues Ernst. “There are 400 to 500 different species of bacteria in the mouth, laid down like tiles,” he says. “With over 60 microbiology UMB faculty on campus, our dental students get superior training in microbiology. Today’s dentists are the ‘above the shoulders’ specialists, and the training they get here makes them a more complete dentist.”

That poor dental health is just one factor that leaves people at risk for sepsis offers impetus for providing the best

training for the next generation of scientists. In the lab, Ernst aims to nurture creative thinkers who are unafraid to experiment, succeed, fail—and fail again—in pursuit of discovery. “I enjoy identifying students who have a real passion for research, the ones who want to run their own labs,” he says. “We fail a lot in science. It is just part of the job. The ones who succeed are the people who have perseverance, who won’t let a negative result stop them.”

There is compelling reason for persistence. Ernst calls what happens when sepsis strikes a “cytokine storm,” and points out that in the face of great need, there is no true antibiotic or antibody for sepsis. “Injuries from car accidents or gunshot wounds can lead to blood-borne infections and sepsis,” he says. “You might treat the infection with broad spectrum antibiotics, but the bits and pieces of bacterial cell wall that remain in the bloodstream can still kill you. Sepsis is an organ issue, and when severe sepsis causes organ distress, there is no going back.”

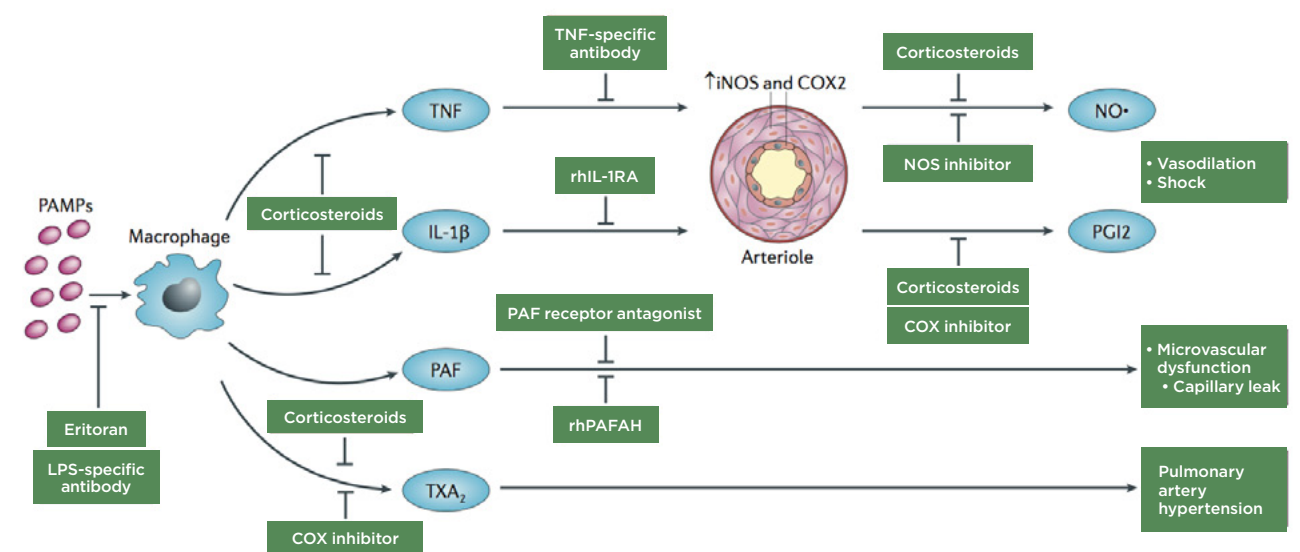
Costing more than \$20 billion annually, the infection remains the most expensive condition treated in U.S. hospitals, he says and adds, “What is worse is that sepsis in the U.S. accounts for more deaths than the number of deaths from prostate cancer, breast cancer, and AIDS combined.”

His hope is that his quest to “follow the molecule” ultimately will result in reduced health care costs and saved lives.

WHAT IS NEEDED

“A NEW SOLUTION” for Gram-negative Sepsis

New ways to diagnose, **reverse**, or **prevent** this serious and costly condition

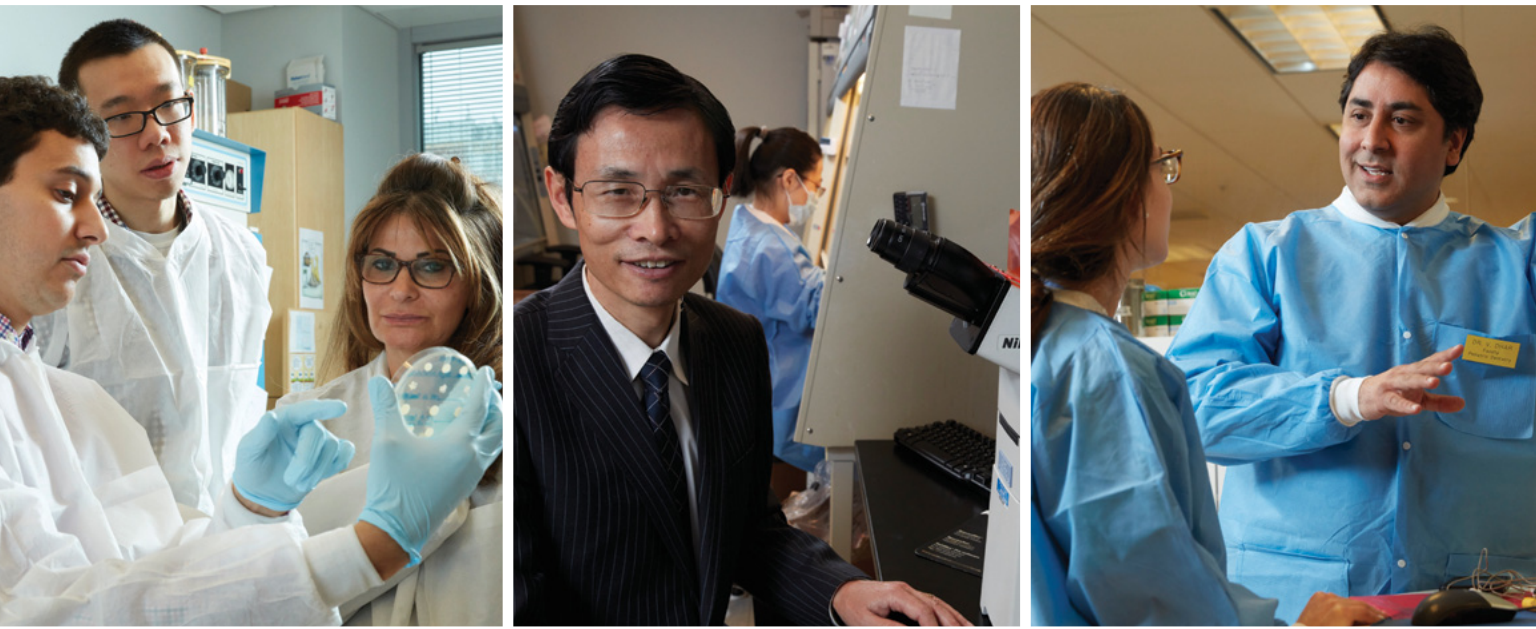


A range of therapies, shown in green, combats sepsis throughout the disease propagation pathway. Ernst’s approach, using anti-sepsis lipid A, works at the beginning of the pathway so the cause of septic symptoms can be stopped before pathogenic inflammation is initiated.

Fink 2014 *Nature Review Drug Discovery*

INTERVIEWS BY HOLLY SELBY

DRIVEN *to* DISCOVER



Mary Ann Jabra-Rizk

'A Fascinating Bug'

Growing up, Mary Ann Jabra-Rizk, PhD, knew early on that she wanted to be a scientist; for her 13th birthday, she asked for a microscope. "I pretty much knew then I would spend my career in a lab," she recalls.

Now associate professor in the UMSOD Department of Oncology and Diagnostic Sciences and the Department of Immunology and Microbiology at the School of Medicine, she majored in laboratory medicine at the American University of Beirut and immigrated to the United States in 1988. As a doctoral student at the UMSOD graduate program in immunology and infectious diseases, she focused on the opportunistic fungal pathogen *Candida albicans*, the etiologic agent of oral *candidiasis* (thrush) and denture stomatitis as well as an array of other mucosal infections. In fact, "about 70 percent of denture wearers suffer from recurrent infections caused by *Candida* due to its ability to adhere and form biofilms on denture material," Jabra-Rizk says. "It is a fascinating bug."

WHAT IS YOUR PRIMARY RESEARCH INTEREST?

I am a microbiologist so my interest is bugs—infectious agents, namely *Candida albicans* and bacterial pathogens that often co-exist with *Candida* in the host. My work, which is both basic and translational in nature, revolves around studying the behavior and interactions between microbial species with the goal of understanding mechanisms of their pathogenesis and development of drug resistance.

A main focus is studying microbial biofilms, defined as complex communities where microbial populations co-exist and interact, adhering to surfaces including host tissues. Biofilms have great clinical relevance and therapeutic implications particularly when they involve diverse species such as fungi and bacteria. Using various animal models, we study these mixed or 'polymicrobial' biofilms to answer questions such as 'Why do polymicrobial infections tend to be more serious and difficult to treat? And how do interactions between species impact their pathogenesis in the host?'

WHAT ABOUT YOUR TRANSLATIONAL PROJECTS?

I have been working with antimicrobial peptides for over a decade and specifically histatin-5, a salivary antifungal peptide naturally secreted by the host salivary glands. My lab has been interested in exploiting the potent antifungal properties of this peptide to develop a novel therapeutic agent. To that end, we recently developed a histatin-based, bioadhesive hydrogel formulation designed specifically for oral topical application, which is currently under patenting. We established the efficacy of this new agent in our mouse model of oral *candidiasis* and, therefore, we foresee pharmaceutical viability for this formulation for the prevention and treatment of *Candida* infections.

On any given day, the University of Maryland School of Dentistry (UMSOD) is home to expert, tightly focused research that is often complex. Whether conducted in labs or clinics, the work done here steadily advances recognition, diagnosis, and treatment of infections and conditions and has a far-reaching impact.

What follows are interviews with three of the many gifted UMSOD researchers about how they found their professional passion—and in doing so are making the school, and the world, a better place.

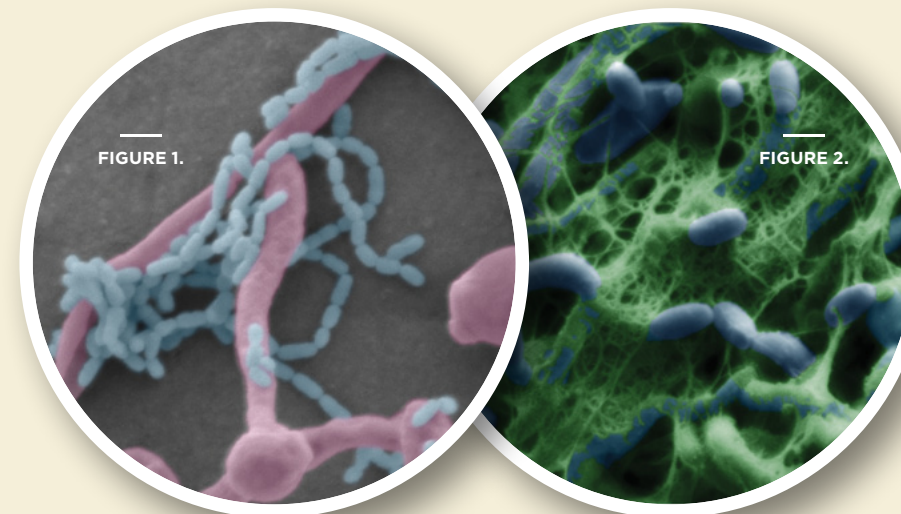


FIGURE 1. A false colored scanning electron micrograph demonstrating the adherence of the cariogenic bacterial species *Streptococcus mutans* to the *Candida albicans* hyphae.

FIGURE 2. A false colored scanning electron micrograph of a *C. albicans* biofilm with hyphae (blue) embedded in the polysaccharide matrix (green) secreted by the fungus.

In collaboration with Dr. Radi Masri, associate professor, Department of Advanced Oral Sciences and Therapeutics, we are using 3-D imaging and printing technology to design a denture appliance and develop a rat model of denture stomatitis to evaluate the therapeutic applicability of our formulation against this condition, which is the most common manifestation of oral *candidiasis*. It is a very exciting project, and we plan on developing other animal models to test the formulation against other common oral conditions such as periodontal diseases and dental caries.

WHAT DEVELOPMENTS HAVE OCCURRED IN THE PAST DECADE THAT MOST EXPERTS DID NOT FORESEE?

For years, we thought we had most bugs under control, but we've seen the emergence of new epidemics such as the recent Ebola crisis and new diseases such as avian and swine flu, which were previously considered animal diseases but are now human pathogens. We don't know how these viruses have crossed the species barrier or, whether in time, they will be able to be transmitted from one person to another.

With the limited arsenal of antimicrobials we have available for clinical use coupled with the increase in drug resistance, it has become literally a race to try to stay ahead by constantly developing new drugs and vaccines. Even if a promising new drug target is identified, before a drug is approved by the FDA, the developed drug will have to undergo animal studies and then human studies; it can take a decade for a new drug to become available for use.

WHAT MOTIVATES YOU?

As a scientist, the drive is always to make new discoveries that will benefit humanity; as a microbiologist, the ultimate goal is combating infectious diseases, which to this day globally kill more people than cancer and heart disease combined. My focus has always been translational research. Overall, my interest is: How does my research benefit the human host?



◀ Digital design of the intraoral acrylic device based on scanned impressions taken of a rat palate. The device (green) is fabricated by 3D printing and secured on the palate, then infected to develop denture stomatitis.



Vineet Dhar

Focusing on the Children

As a pediatric dentistry resident in India, Vineet K. Dhar, BDS, MDS, PhD, often treated children who hadn't had access to health care and were in advanced stages of oral disease. The experience opened his eyes to the importance of clinical research and the ways in which it can improve care.

While a doctoral candidate at Mohanlal Sukhadia University, Rajasthan, Dhar focused on pediatric caries and its prevention. In 2009, he moved to the United States for a faculty position at the University of Maryland School of Dentistry (UMSOD) and in 2013, earned a certificate in pediatric dentistry from UMSOD.

Last year, Dhar, associate professor and chief of the Division of Pediatric Dentistry at UMSOD, received the Paul P. Taylor Award from the American Academy of Pediatric Dentistry (AAPD), which recognizes the most prestigious article published during the preceding year in the journal *Pediatric Dentistry*. In May, he received the AAPD's Jerome B. Miller/Crest-Oral-B/For the Kids Award, which annually recognizes an up-and-coming clinician, researcher, or academician in pediatric dentistry.

"In India, one of the things you see is children who have extreme disease because they never got care. Very early, I realized that there should be better ways for prevention, but when you look at the data there isn't a lot out there," says Dhar, who serves as president of the Maryland Academy of Pediatric Dentistry. "Finding out what the prevalence is [of pediatric caries] and what preventive measures have worked best became what I focused on."

WHAT METHODS DO YOU USE IN YOUR RESEARCH?

I am a clinical researcher so I don't have a lab. Since 1997, I have conducted epidemiological research projects to determine prevalence of early childhood caries, clinical, and

in vitro research to study the effectiveness of pit and fissure sealants, pulp therapies in children, and fluoride therapy. My focus has been on prevention of dental caries, especially on the use of pit and fissure sealants.

WHAT DO YOU HOPE WILL BE THE IMPACT OF YOUR RESEARCH?

My research on sealants showed higher retention rates for resin-based sealants compared to glass ionomer sealants and that tooth preparation prior to sealant placement could predispose the tooth to dental caries.

As a result, I was selected to serve on the American Dental Association (ADA) Expert Panel on Guidelines for pit and fissure sealants. But, because of the lack of high-quality evidence, we were unable to provide specific recommendations for choice of sealant materials. Instead, the panel suggested clinicians use best judgment when choosing the type of sealant material most appropriate for a specific patient and clinical scenario. For example, taking into account the ability to obtain effective isolation, partial eruption, and the need for long-term retention. [The panel's work was published last year and is the recipient of the 2017 Paul P. Taylor Award from AAPD.]

I am also leading an AAPD, evidence-based work group charged with producing first-ever clinical practice guidelines on vital pulp therapies for children. The document, scheduled to be published this fall, will serve as a standard of care and may change how clinicians treat children needing vital pulp therapies.

IN THE LAST DECADE, WHAT HAVE BEEN THE MOST PRESSING QUESTIONS FOR PEDIATRIC DENTISTS?

Dental caries is the most common chronic disease of childhood and is largely preventable. Researchers have spent the last decade identifying risk factors and evaluating effective ways to improve the lives of children. We have a moral obligation to represent children. We need good quality research in areas of preventive and clinical dentistry.

WHAT WILL BE THE MOST SIGNIFICANT CHALLENGES FOR RESEARCHERS IN YOUR FIELD IN THE NEXT FEW YEARS?

In most fields, the biggest challenge is the lack of funding. It is getting increasingly challenging to secure funding for clinical research projects. This is a significant barrier in conducting high-quality research, which is the need of the hour. Recently [at UMSOD] as a part of faculty development, efforts have been made to bring clinicians and researchers together to brainstorm on research ideas and collaborate, which will motivate new faculty and create the right environment conducive for research.



Huakun Xu

Driven by Questions; Focused on Answers

Curiosity infused with practicality drives Huakun Xu, PhD, MS, professor and director of the Biomaterials and Tissue Engineering Division at UMSOD. Even as a youth, he had a tendency to pose myriad questions. "I was always asking, 'Does this work?' 'Does this work better?'" he says. "I am quite practical: I want to make things better for dentistry."

Xu came from China to the United States in 1988 to pursue a doctorate in physics at Kansas State University. After two years of study, he switched his field to engineering. "Because I am so practical, I realized that I am more attracted to engineering," he says. "I like materials. I can see and feel and touch what I am doing."

That blend of query and invention has resulted in Xu and his multidisciplinary team being awarded five patents (and two others pending).

YOUR PRIMARY RESEARCH INTERESTS ARE DENTAL BIOMATERIALS, STEM CELLS, AND BONE TISSUE ENGINEERING. WHAT LED YOU TO THESE LINES OF INQUIRY?

My PhD was in materials engineering. I started to collaborate with dentists on dental materials, then I expanded to scaffolds for bone regeneration and then to stem cells, which are combined with scaffolds. Teeth and bone are both hard tissues, so they share many properties.

YOU AND YOUR COLLABORATORS HAVE SEVERAL PATENTS WITH MORE PENDING. COULD YOU DESCRIBE ONE OF THE TECHNOLOGIES OR DISCOVERIES?

The UMB Biomaterials and Tissue Engineering Lab, which includes Drs. Michael D. Weir, Mary Anne Melo,



▲ Mary Anne Melo, DDS, MS, PhD, associate professor in the Division of Operative Dentistry, and affiliated collaborative research faculty in the Division of Biomaterials and Tissue Engineering

▲ Xia Yang, DMD, postdoctoral fellow in Xu's lab, and associate professor, Nanjing Medical University in China

postdoctors, and students, focuses on developing new bioactive and therapeutic dental materials and scaffolds/ stem cell constructs for tissue regeneration. For example, we have a patent on bioactive dental restorative materials, with the purpose of not only replacing the missing tooth tissues, but also carrying therapeutic capabilities such as remineralization and antimicrobial functions. We are collaborating with a company and hope to develop new and improved dental products to improve treatment efficacy.

WHAT DO YOU THINK WILL BE THE NEXT BIG AREA OF STUDY IN YOUR FIELD?

In many developing countries and in some populations of the United States, many people lose their teeth by the time they are around 60 due to tooth decay and periodontal diseases. It is relatively easy to regenerate bone in a young rat or other healthy animals, but healthy young people are not the ones who need this strategy.

What if you are treating a patient with osteoporosis? What if the patient has a bacterial infection? That is where the need is: Developing a new generation of bioactive and therapeutic dental materials and tissue engineering approaches that can regenerate large volumes of missing tissues such as bone, while simultaneously producing adequate blood vessels as well as nerves to keep the large volume of new tissue viable and healthy. Efforts are needed to address these complicated issues and, hopefully, moving the new and promising findings and strategies closer to clinical applications.

WHAT ARE YOU WORKING ON RIGHT NOW THAT MOST EXCITES YOU?

For bone tissue engineering, we are developing novel, bioactive scaffolds and stem cells guided for osteogenesis. We implant these cell-loaded constructs in animals to investigate bone regeneration and blood vessel formation.

For dental materials, we are developing a new generation of bioactive and therapeutic resins, composites, and bonding agents in collaborations with Drs. Mark A. Reynolds, Thomas W. Oates, Patricia A. Tordik, and others. These materials can modulate oral bacteria and biofilm species to promote the healthy species to thrive and suppress the cariogenic species that can produce acids and cause tooth decay. They also can suppress other pathogenic species such as periodontal pathogens and endodontic biofilms.

YOU ARE RENOWNED FOR BEING A WONDERFUL EDUCATOR. WHAT IS YOUR PHILOSOPHY OF TEACHING?

It is very fulfilling for me to be a teacher. I like to care about the students, put myself in their shoes, and understand what the most effective way is to stimulate or motivate them and get them interested in learning. I would like to promote and facilitate their curiosity. I love seeing students learn, grow, thrive, and be successful.

BE A PART OF SOMETHING BIG

At the Baltimore City Mission of Mercy Dental Clinic last September, 701 patients received more than \$520,000 worth of oral health treatments—for free.

Organized by the United Way of Central Maryland (UWCM) as part of its annual Project Homeless Connect, and in collaboration with the University of Maryland School of Dentistry (UMSOD), the event brought together volunteer faculty, alumni, and dentistry and dental hygiene students who offered free oral health care to the under-insured and uninsured.

This year's Baltimore City Mission of Mercy Dental Clinic is scheduled for Thursday, Oct. 12, and Friday, Oct. 13, at the Baltimore Convention Center.

With your help, we can expand the event—and serve even more patients in need of these important services.

TO SIGN UP OR LEARN MORE about how you can help, contact: Aparna.nagaraju@uwcm.org

During last year's two-day project, volunteers provided:

1,444
EXTRACTIONS

336
FILLINGS

255
TEETH CLEANINGS

680
RADIOGRAPHS



Congratulations CLASS OF 2017!

Smiles were plentiful on graduation day at the University of Maryland School of Dentistry. At the Honors Convocation, held on May 19 at the Hippodrome Theatre, Jesse Goldman, DDS '17, performed on his violin just moments before 129 dentistry students received their doctoral hoods and 20 dental hygiene students received their pins. Hours later, Joseph Fishbein, DDS '17, signaled the start of the University of Maryland, Baltimore commencement ceremony, held at Royal Farms Arena, by singing the national anthem. And William P. Magee Jr., DDS '69, MD, chief executive officer and co-founder of Operation Smile, urged the graduates to take advantage of their unique gifts during his keynote address.

For more photos and information, visit www.dental.umaryland.edu/commencement



Jesse Goldman performs on the violin as a prelude to the Honors Convocation. To read a profile about Goldman, visit www.dental.umaryland.edu/goldman



Genevieve Warmann, DDS '17, with her mother and father



From left, Dental Hygiene graduates Elizabeth Conn and Danielle Turner with Lisa E. Bress, RDH, BS '83, MS '94, clinical assistant professor in the Dental Hygiene Program



Luke Tompkins, DDS '17, with his father, William C. Tompkins, DDS '83, and family



Cynthia L. Idzik-Starr, DDS, clinical assistant professor, receives The Frank J. Sinnreich Jr. Award for Excellence in Teaching from Dean Mark A. Reynolds, DDS '86, PhD.



From left, DDS graduates Eric Halejian, Peter Fereg, Preston Schryer, Arin Abrahamian, and Josh Jaffe toss their hats in celebration.



From left, Monica Bulay, DDS '17, Emily Davis, DDS '17, Michael Chung, DDS '17, and Jesse Goldman, DDS '17, who performed on his violin



DDS graduates Binait Kabir and Brian Normile



DDS graduates recite the oath of dentistry.

SCHOOL OF DENTISTRY SHINES *on* GRADUATION DAY

“

It's only when our knowledge is imbued with intense passion and energy that knowledge has a chance to come to life. Find that place in your soul where that knowledge has a chance to grow.”

—
WILLIAM P. MAGEE JR.,

keynote speaker at the UMB commencement ceremony



PHOTO BY TRACEY BROWN

Joseph Fishbein sings the national anthem at the UMB commencement ceremony.



PHOTO BY TRACEY BROWN

From left, UMB President Jay A. Perman, MD, William P. Magee Jr., and UMSOD Dean Mark A. Reynolds, DDS '86, PhD.



PHOTO BY TRACEY BROWN

In his remarks, Magee urged graduates to find ways to explore the world.



PHOTO BY JAY BAKER



PHOTO BY JAY BAKER

Retired Col. Jeffrey S. Almony, DDS '89, MD, at left with his son, Michael Almony, DDS '17, and above, leading U.S. Air Force, Army, and Navy corps graduates as they take their oaths

PHOTOS BY JIM BURGER

GETTING TO KNOW YOU

ANNUAL SCHOLARSHIP LUNCHEON BRINGS TOGETHER DONORS AND RECIPIENTS

Scholarship recipients and donors met, swapped stories about their dental school experiences, or simply became acquainted with each other at the 2017 Scholarship Luncheon. The April 12 event, held against the backdrop of Westminster Hall's stained-glass windows, this year drew nearly 100 alumni, scholarship donors, and scholarship recipients—its largest crowd ever.



▶ Dean Mark A. Reynolds, DDS '86, PhD, and Chad Dammling, scholarship recipient, offered remarks at the Scholarship Luncheon.



▶ University of Maryland Baltimore Foundation trustee Theo C. Rodgers meets scholarship recipients Ashlee Thomas and Krystal Donaldson.



▶ From left, donors Andy Ho, Trung Ho, DDS '85, and Tien Ho, DDS '97, meet Jennifer Nguyen, scholarship recipient.



▶ Donor Stanley E. Block, DDS '58, presents Kelsey Jones, scholarship recipient, with a history of the University of Maryland School of Dentistry.

▶ Summer Ceraolo-O'Donnell and Jordan Virden, scholarship recipients, meet donor Bradley Trattner, DDS '88.



▶ Ariana Feizi, scholarship recipient, chats with donors Betty Emam, DDS '58, and Alan Rahimi, PhD.

STORY BY GWEN NEWMAN

Giving Back is a Family Tradition

Longtime School of Dentistry supporters Edgar and Betty Sweren have made philanthropy part of their lives.

Hands are known as the tools of an artist and that holds twice over in the household of Edgar Sweren, DDS '54, and his wife, Betty.

At age 88, Sweren has been a practicing orthodontist for six decades, serving as a University of Maryland School of Dentistry (UMSOD) part-time faculty member in the Department of Orthodontics and Pediatric Dentistry since 1977, treating thousands of patients and mentoring hundreds of students.

Betty, an accomplished book artist, educator, and collector, teaches at Goucher College and Johns Hopkins University, and her own artists' books are in the special collections of various art institutions and libraries, including the National Gallery of Art, the Walters Art Museum, and the Victoria & Albert Museum in London.

Together, the Swerens, longtime supporters of UMSOD, share a passion for the arts and for helping students shine and succeed. "We are a family who believes in giving back," says Sweren, and Betty nods, adding, "We couldn't do any of these philanthropic activities if Edgar had not become an orthodontist with a great career. It really is a privilege to be able to do what we've been doing."

Over the years, the Swerens have enjoyed filling their home with works by internationally renowned artists such as glass sculptor Dale Chihuly, furniture maker George Nakashima, and MacArthur Foundation Fellow and creator of artists' books Claire Van Vliet.

As ardent fans of live theater, they became founding members of Baltimore's Center Stage; Betty also helped establish and maintain a regional arts center called Pyramid Atlantic, where she served as a longtime board president. Together they have endowed student book collecting competitions at Betty's two alma maters, Goucher and Hopkins, offering generous prizes to encourage students to appreciate and collect books.

A Depression-era baby and one of four siblings, Sweren is candid today about being the first in his family to go to college as a full-time student and credits UMSOD with providing him the opportunity of a lifetime. Had he not been accepted locally, Sweren says, he could not have afforded to study dentistry elsewhere. Now a clinical assistant professor, he thrived during his years as a dental student, and was later able to build on that foundation when he trained in orthodontics at Columbia University College of Dental Medicine.

◀ The artists' book *The Snake* was conceived of, written, and designed by Betty Sweren. She and Rick Hungerford created the handmade paper and pulp painting; the letterpress printing of Koch Antiqua type is by Gordon Fluke at the J.D. Grahame Cracker Press.

▶ Edgar and Betty Sweren surrounded by their artists' book collection. At right, a pop-up book by renowned artist Paul Johnson depicts the Swerens' library.



"WE ARE A FAMILY WHO BELIEVES IN GIVING BACK"

— EDGAR SWEREN



▲ The Swerens surrounded by family members at the June 2016 celebration at the Dr. Edgar and Mrs. Betty Sweren Orthodontic Clinic.

After graduating with his DDS degree in 1954, Sweren served for two years at Hunter Air Force Base in Savannah, Ga., as a captain in the U.S. Air Force Dental Corps and in 1958 earned his Certificate in Orthodontics from Columbia. A tireless champion of UMSOD, Sweren points out that he attended Columbia for his speciality training because the UMSOD graduate orthodontic program was not founded until 1970.

The first UMSOD graduate from the Baltimore area in two decades to earn a spot at Columbia, Sweren became a diplomate of the American Board of Orthodontists in 1971, an honor achieved at that time by only about 20 percent of orthodontists.

While Sweren was studying in New York, Betty remained in Baltimore teaching elementary school and raising three children under 5 years of age (a fourth was yet to come). On weekends, Sweren returned for a whirlwind visit and one day of work in the dental practice of Betty's uncle, Dr. Philip Block, who graduated in 1933 from UMSOD, then known as the Baltimore College of Dental Surgery.

Throughout her husband's career, Betty has used her artistic talents and training to assist him whenever she could. For example, her skills in calligraphy helped her produce the cephalometric tracings and other written materials required for his diplomate board examination, and she often prepared models for patients' records during the early years of practice building.

The Swerens have made numerous personal contributions to benefit UMSOD's Department of Orthodontics and Pediatric Dentistry. In 2015, the institution celebrated the couple as part of its 175th anniversary events, presenting them with an engraved crystal plaque and naming the Orthodontic Clinic in their honor.

The anniversary festivities culminated with an informal gathering at the clinic itself, attended by Sweren family members, including many of their four children and 10 grandchildren.

Earlier this year, UMSOD Dean Mark A. Reynolds, DDS '86, PhD, announced the establishment of the Alumni and Friends Department of Orthodontics Endowed Professorship. Sweren first had proposed the professorship after reading about a \$2 million endowed chair in orthodontics at the University of Connecticut—that school's first endowed chair. He saved the article and began thinking about how to establish a similar chair here in Baltimore.

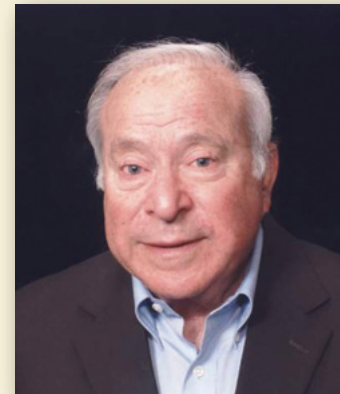
In 2006, the Swerens made a leadership gift to the school. They were joined by Karl Pick, DDS '66, MSD, who also made a gift—and the effort to establish an endowed professorship officially began.

In the ensuing years, the Swerens and Pick worked diligently with other alumni to raise funds. In the end, the Swerens also made the final gift that enabled the School of Dentistry to establish the endowed professorship.

"Dr. Sweren challenged alumni to give to their alma mater and had both a history with the residents and a personal connection to all of them. He and Betty have been just the most generous, helpful, hard-working, and committed people throughout this process," says Pick, who served as co-chair of the fundraising committee.

The dean agrees: "I'd like to express my deep gratitude to the members of the alumni committee whose work and generosity helped establish this position and, in particular, Dr. Sweren, who initially envisioned the professorship and who steadfastly worked alongside his wife to make it possible."

FROM THE BOARD OF VISITORS



only do I meet prospective students, donors, and corporate partners, I also am able to observe firsthand what's being taught and modeled by our talented faculty—and what's being learned by our students.

One of my favorite responsibilities as chair of the University of Maryland School of Dentistry (UMSOD) Board of Visitors is taking visitors on tours of our clinics both on campus and at our externship sites in Perryville, Frederick, and Carroll County. Not

The clinic atmosphere is high-energy and collegial. It is clear to me that our faculty members are passionate about their profession and committed to sharing their expertise with the next generation of oral health care practitioners. And the students, whether designing a treatment plan, working in the lab, or delivering patient clinical care, are focused on soaking up as much as they can during these important years. That passion and focus is paying off: Records show that last year, 99 percent of our students passed their clinical licensure exams the first time they took them.

UMSOD has always been renowned nationally for the clinical experience it offers its students. By sharing its remarkable story, I hope to inspire others to support its great programs.

Melvin F. Kushner, DDS '66
Chair | Board of Visitors

FROM THE ALUMNI ASSOCIATION



liaison for the undergraduate education committee, working as editor of the school yearbook, and joining the Gamma Pi Delta Prosthodontic Honor Society and the Alpha Omega International Dental Fraternity.

Nonetheless, more than anything else, it was through my day-to-day classes and clinics that I met the many talented and dedicated classmates and faculty who eventually became my great friends and colleagues.

Many of those relationships are still strong today—and are the reason I feel honored to serve as the new president of the Alumni Association Board of Directors.

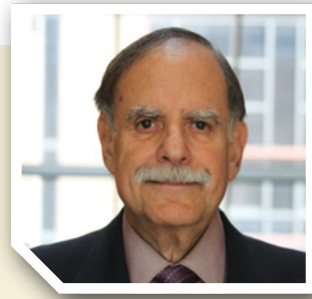
One of the things I remember best about being a student at the University of Maryland School of Dentistry is how it felt to be a member of a tightly knit community. To be sure, I took advantage of all the opportunities to become involved—serving as student

My predecessor, Ali Behnia, DMD, ENDO '98, worked during his tenure to honor our standing traditions and develop new ones. He also worked with the Alumni Relations staff to bolster our communications and expand the ways in which we can become involved in the life of the school and reconnect with each other. I would like to take this opportunity to thank Ali for his leadership and hard work.

In August, the Alumni Association will continue his efforts by welcoming first-year dentistry and hygiene students—and future alumni—to the School of Dentistry community at our second annual orientation luncheon.

As I look to the months ahead, I am enthusiastic about the opportunity to represent each and every one of you, build upon our alumni traditions—and establish more ways through which you can reconnect with each other, get to know some of our current students, and stay in touch with our school.

Adam Eisner, DDS '89
President | Alumni Association Board of Directors



**2017 ALUMNUS OF THE YEAR
DISTINGUISHED PUBLIC SERVICE AWARD**

BARRY L. COHAN

This award recognizes meritorious professional leadership and service to UMSOD and the community. In its inaugural year, the award honors Barry L. Cohan, DDS '74, '76, for his leadership, service, and contributions to the oral health field, UMSOD, and the residents of Maryland.

Cohan graduated in 1974 from the School of Dentistry and two years later received a certificate in pediatric dentistry. He also completed a fellowship in the Department of Surgery at the John F. Kennedy Institute of Johns Hopkins Hospital and a two-year program in facial pain and temporomandibular joint disorders at the University of Medicine and Dentistry of New Jersey.

For more than 40 years, Cohan has run a private family practice of dentistry in Baltimore while steadfastly contributing his time, wealth, and knowledge to the School of Dentistry and the community.

Cohan is a member of the Maryland State Board of Dental Examiners and serves as a Commission on Dental Competency Assessments examiner. He is a past president of the UMSOD Alumni Association Board of Directors and currently sits on the Board of Visitors and the President of the University of Maryland, Baltimore Roundtable. Since 2011, he has served as a part-time assistant professor on the Dean's Faculty, spending two days a week instructing residents and undergraduate students in pediatric dentistry and facial pain.

Cohan's professional honors include induction into the Psi Chi National Honor Society in Psychology, Gorgas Dental Scholarship Honor Society, and Gamma Pi Delta Honor Society in Prosthetic Dentistry. He is a member of the Pierre Fauchard Academy and a fellow in both the American College of Dentists and International College of Dentists.

Cohan has been generous with his time and support throughout the larger community, as well. An active member of his synagogue, he also is a recipient of the Silver Beaver Award (the highest award bestowed upon a volunteer) for his service to the Boy Scouts of America and serves on the Eagle Board of Review. Since 2004, he has served as the Fleet Surgeon for the Baltimore Yacht Club and was named Yachtsman of the Year by the Chesapeake Commodores Club. Additionally, he is a commander and qualifications examiner for the U.S. Coast Guard Auxiliary.

A longtime supporter of the school, Cohan was the first alumnus to give a major gift in support of the new UMSOD building. He and his wife, Adele, have established, among other initiatives, a scholarship for a senior student who wishes to continue his/her education in pediatric dentistry. Cohan looks forward to continuing his efforts on behalf of his alma mater, a world leader in dental education. He feels that "giving back is so important and fulfilling."



**2017 ALUMNUS OF THE YEAR
DISTINGUISHED ACHIEVEMENT AWARD**

JON B. SUZUKI

This award honors an alumnus for significant professional accomplishments in science, dentistry, or education. In its inaugural year, the award recognizes Jon B. Suzuki, DDS, PERIO '82, PhD, MBA, for his exceptional achievements in and contributions to the oral health field.

A member of the UMSOD Dean's Faculty, Suzuki also serves as chair of the Food and Drug Administration Dental Products Panel and has a presidential appointment at Temple University as professor of microbiology and immunology in the School of Medicine and professor of periodontology and oral implantology in the School of Dentistry.

Suzuki received his DDS from Loyola University of Chicago and PhD in microbiology from the Illinois Institute of Technology. He completed a National Institutes of Health fellowship in immunology at the University of Washington in Seattle, a clinical certificate in periodontics at UMSOD, and an MBA at the Katz Graduate School of Business of the University of Pittsburgh.

Suzuki, who has a hospital appointment at Temple Episcopal Hospital in Philadelphia, is on the faculty of the Walter Reed National Military Medical Center in Bethesda, Md. He is past chair of the American Dental Association (ADA) Council on Scientific Affairs and is an ADA consultant on the Scientific Council, Dental Practice Council, and the Commission on Dental Accreditation, Chicago.

Suzuki's past appointments include chair and director of graduate periodontology and oral implantology and associate dean for graduate education at Temple University. He also served as dean, chief of hospital dentistry, and chief executive officer of the Faculty Practice Plan at the University of Pittsburgh.

Suzuki is a diplomate of the American Board of Periodontology, diplomate and board examiner of the International Congress of Oral Implantologists, and a specialist microbiologist of the National Registry of Medical Microbiology.

He has published more than 200 papers, chapters, and symposia, in addition to a textbook on medical technology. He serves as executive secretary/treasurer of the Supreme Chapter of Omicron Kappa Upsilon, the National Dental Honor Society. His honors include Alumnus of the Year at Loyola University of Chicago, first place in the 1982 Orban Prize Graduate Research Competition of the American Academy of Periodontology and in the ADA/Dentsply Supervisory Control and Data Acquisition (SCADA) Table Clinic Competition.



**2017 LINDA DEVORE DENTAL HYGIENE
ALUMNUS AWARD**

LINDA BLACKISTON

This award recognizes a dental hygiene alumnus of UMSOD who represents the integrity, intellectual curiosity, community-mindedness, and leadership epitomized by Linda DeVore, RDH '76, MA. Now in its fifth year, the award honors Linda Blackiston, RDH, BS '95, for her exceptional achievements, activism, and leadership within the dental hygiene profession and beyond.

Passionate about changing lives through education, Blackiston received a Bachelor of Science degree in dental hygiene from UMSOD in 1995.

As the mid-Atlantic manager of professional education for Philips North America, Blackiston develops curriculum and presentations for dental student and professional groups. A highly sought-after speaker, she has presented professional development and public awareness talks on topics from pediatric oral health to emerging biofilm science.

Dedicated to spreading awareness about oral health, Blackiston has myriad volunteer commitments including working with the Kansas Mission of Mercy and as a volunteer instructor for Prevent Abuse and Neglect through Dental Awareness (PANDA).

Blackiston's generosity extends beyond the profession of dental hygiene. Since 2014, she has served as a board member and volunteer at The Samaritan Women, a national Christian organization that advocates and cares for survivors of domestic human trafficking. She also is a member of the technical working group of Stop. Observe. Ask. Respond to Human Trafficking (SOAR), a U.S. Department of Health and Human Services program that trains health professionals to recognize victims of human trafficking.

Showcasing Our REMARKABLE ALUMNI

The University of Maryland School of Dentistry (UMSOD) historically has honored a Distinguished Alumnus of the Year. Now, in recognition that there are myriad exceptional and dedicated professionals among our alumni, the school is proud to introduce two new awards. The names of the honorees will be on view in the school's first-floor atrium in a newly designed display case that includes recognition of past award recipients—and has room for future recipients, as well.

Please join us in congratulating the inaugural honorees of the Alumnus of the Year Distinguished Public Service Award and the Alumnus of the Year Distinguished Achievement Award, as well as the 2017 recipient of the Linda DeVore Dental Hygiene Alumnus Award.

A RESOUNDING 'WELCOME BACK!'

At the All-Alumni Reunion, June 2-3, more than 130 alumni, friends, and family came to campus to reconnect with UMSOD and enjoy each other's company.



Karen Faraone, DDS '78, and Kathleen Frankle, DDS '85, smile wide at the photo booth.

From left, Ali Behnia, DMD, ENDO '98, immediate past president of the Alumni Association Board; Stephen J. Friedman, DDS '74; Adam Eisner, DDS '89, president of the Alumni Association Board; and Bradley Trattner, DDS '88, past president of the Alumni Association Board



Genevieve Icart-Bandali, DDS '87, Lorna Flamer-Caldera, DDS '87, and John M. Richards, DDS '87



The Bob Diener Trio kicks off an evening of celebrating distinguished alumni and reconnecting with old friends.



Warm friends and frozen treats abound at the Grand Class Luncheon.



Distinguished Public Service Award honoree Barry L. Cohan, DDS '74, '76, with his family



Dean Mark A. Reynolds, DDS '86, PhD, with Alumnus of the Year Distinguished Achievement Award honoree Jon B. Suzuki, DDS, PERIO '82, PhD, MBA, Linda DeVore Dental Hygiene Alumnus Award honoree Linda Blackiston, RDH, BS '95, Distinguished Public Service Award honoree Barry L. Cohan, DDS '74, '76, and Alumni Association Board Past President Ali Behnia, DMD, ENDO '98



Beth Gruver, RDH, BS '92, and Okan Damar, DDS '77



Members of the Class of 1967 celebrate their reunion at the Grand Class Luncheon.

Denny Kephart, DDS '67, Gerald Woods, DDS '67, and Dean Mark Reynolds, DDS '86, PhD, enjoy one of several class parties held June 3.



Marion Manski, RDH '88, MS '04, director of the Dental Hygiene Program, speaks at the opening reception before presenting the Linda DeVore Dental Hygiene Alumnus Award to Linda Blackiston, RDH, BS '95.



CLASS NOTES

1967

Mitchell Bukzin, DDS, sold his private practice in 2014, which he had operated since 1972. His son, Jay, is an oral surgeon in Northern Virginia and has three kids of his own.

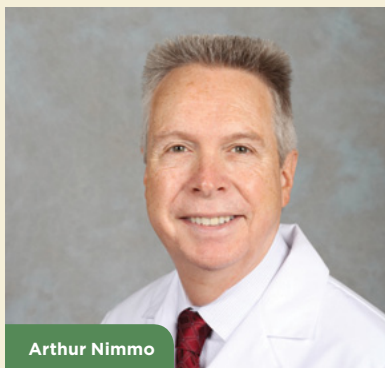
Robert Gold, DDS, retired from private practice in oral and maxillofacial surgery in 2015.

1969

Michael Radell, DDS, married his husband, Justin, in October 2015. He has been in private practice in orthodontics for 43 years.

1979

Arthur Nimmo, DDS, director of the University of Florida Predoctoral Implant Dentistry Program, in November was named the 67th president of the American Board of Prosthodontics.



Arthur Nimmo

1983

Pete Kessler, DDS, retired from his Baltimore dental practice and moved with his family to northwest Florida.



Pete Kessler

1988

Michael Eggnatz, DDS, was elected president of the Florida Dental Association, and his tenure began in June.

Sheryl Syme, RDH, MS '93, received two grants for the Maryland Special Olympics Special Smiles Program. One is from the DentaQuest Foundation, and the other is from the American Dental Hygienists' Association Institute for Oral Health Wrigley Co. Foundation Community Service.

1991

Kelly McNally, DDS, was named among the Top Dentists in Bergen County, N.J., by *Bergen Magazine*.



Kelly McNally

2012

Sarah Luce, DDS, is a tribal dentist for the Norton Sound Health Corp. in Nome, Alaska. She is married with a 1-year-old daughter, Dani Elizabeth Luce.



Sarah Luce

in MEMORIAM

We are saddened by the loss of the following alumni and friends

Joseph F. Baldacchino, DDS '47
 William Blumenfeld, DDS '44
 Derek E. Brown, DDS '95, MS '98
 G. Gary Clendenin, DDS '62
 Herman Cooper, DDS '53
 David H. Goodman, DDS '73
 Barry B. Gross, DDS '66
 Richard W. Hungerford, DDS '55
 Robert A. Jacobson, DDS '69
 William C. Jennette Jr., DDS '63
 E. Gerard Keen, DDS '59
 Kenneth K. Kline, DDS '50
 Paul V. Ladd, DDS '63
 Vernon A. Lake, DDS '56
 Richard J. Luttman, DDS '60
 Harry Levy, DDS '60
 Joseph A. Lucia, DDS '55
 Frank A. Marano, DDS '41
 C. Harry McCambridge, DDS '66
 Dale R. Moss, DDS '56
 Louis V. Myers III, DDS '76
 John A. Noel, DDS '51
 Lawrence W. Paden, DDS '54
 Garr T. Phelps, DDS '61
 Burton H. Press, DDS '53
 Theodore S. Schwartz, DDS '69
 Robert S. Sears, DDS '75
 Harvey K. Soloff, DDS '44
 Charles H. Stoner, DDS '67
 Jack R. Traylor, DDS '47
 Raymond F. Waldron, DDS '60
 George H. Williams III, DDS '66
 George D. Yent Jr., DDS '56

LAURELS

GRANTS

David Chen, DMD '14, and **Leah Romay, DDS '16**, residents in the Department of Advanced Oral Sciences and Therapeutics, received one-year, \$6,000 research fellowship grants from the American College of Prosthodontics Education Foundation to study computer-aided design and manufacturing technology.

Ru-ching Hsia, PhD, associate professor, Department of Neural and Pain Sciences, and director, Electron Microscopy Core Facility, received a \$99,975 grant from the Department of Defense, U.S. Army Research Development and Engineering Command, to fund her study "Acquisition of an Automated EM Specimen Processor, mPrep ASP-1000 for University of Maryland Baltimore Core Facility."

Richard Manski, DDS, MBA, PhD, professor and chair, Department of Dental Public Health, received a two-year, \$314,496 grant from the National Institute of Dental and Craniofacial Research to study modeling dental service use among the elderly in the presence of endogenous selection into dental coverage.



Silvia Montaner

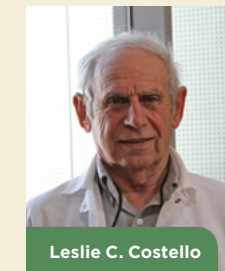
Silvia Montaner, PhD, MPH, associate professor, Department of Oncology and Diagnostic Sciences, received a five-year, \$530,014

grant from the National Institutes of Health for her study "Promotion of Retinal Vascular Hyperpermeability and Macular Edema by ANGPTL4."

Harlan J. Shiau, DDS, DMSc, clinical associate professor and program director, postgraduate periodontics, received a \$90,000 award from the Maryland Industrial Partnerships Program for the project "Treating Gingivitis with a Functional Chewing Gum." The clinical study will evaluate the effect of chitosan-coatings to limit biofilm accumulation and reduce inflammation. It is a collaboration with company MastiX, LLC, which will provide matching funds for the project.

PUBLICATIONS & PRESENTATIONS

Nasir Bashirelahi, PhD, professor, Department of Oncology and Diagnostic Sciences; student **Lara Seidman**; and **Patricia A. Tordik, DMD**, clinical professor and director of postgraduate endodontics, were among the co-authors of a 2017 article "What Every Dentist Should Know About Opioids," which was published in *General Dentistry*.



Leslie C. Costello

Leslie C. Costello, PhD, professor, Department of Oncology and Diagnostic Sciences, and **Renty Franklin, PhD**, professor, Department of Oncology and Diagnostic Sciences, and associate dean of research, in October presented "The Role of Zinc in the Development of Cancers,



Renty Franklin

and its Implications for Treatment and Prevention" at the International Conference on Cancer Research and Targeted Therapy held in Baltimore.

Costello and Franklin also are among the co-authors of two papers: "Decreased Zinc in the Development and Progression of Malignancy: An Important Common Relationship and Potential for Prevention and Treatment of Carcinomas," which in January was published in *Expert Opinions on Therapeutic Targets*, and "Plasma Citrate Homeostasis: How It is Regulated; and Its Physiological and Clinical Implications. An Important, But Neglected, Relationship in Medicine," which was published last year in the *Journal of Human Endocrinology*.

Carl F. Driscoll, DMD, FACP, professor and director, Prosthodontic Residency; **Radi Masri, DDS, MS, PhD**, associate professor; **Elaine Romberg, PhD**, professor emeritus; and **Priscilla Sia, DDS, BDS, FACP**, resident, in the Department of Advanced Oral Sciences and Therapeutics, were co-authors of "Effect of Locator Abutment Height on the Retentive Values of Pink Locator Attachments: An In Vitro Study," which was published in the February issue of *Prosthetic Dentistry*.

Ronald Dubner, DDS, PhD, professor emeritus, Department of Neural and Pain Sciences, served as guest editor on a special issue of the *Journal of Dental Research* published by the International and American Associations for Dental Research.

Koyel J. Ghosal, postdoctoral fellow, and **Bryan Krantz, PhD**, associate professor, Department of Microbial Pathogenesis, were among the co-authors of "Dynamic Phenylalanine Clamp Interactions Define Single-Channel Polypeptide Translocation Through the Anthrax Toxin Protective Antigen Channel," which in February was published in the *Journal of Molecular Biology*.

William F. Hoffman Jr., MAS, northeast section department administrator, Department of Advanced Oral Sciences and Therapeutics, and Nancy Bowers, director, Department of Finance and Administration, School of Pharmacy, gave a presentation titled "HR Management and Best Practices for the Department Administrator" at the Society of Research Administration International Spring Meeting held April 2-5 in Honolulu, Hawaii.

Marion Manski, RDH '88, MS '04, clinical associate professor and director, Department of Dental Hygiene, gave a presentation in March titled "Preparing Dental Hygiene Students to Address the National HIV/AIDS Strategy Through an Interprofessional Curricular Approach" at the Dental Hygiene Educator's Forum held in Long Beach, Calif.

LAURELS *continued*

Mary Anne Melo, DDS, MSc, PhD, assistant professor, Division of Operative Dentistry; **Mark Reynolds, DDS '86, PhD**, School of Dentistry dean and professor; and **Huakun Xu, PhD, MS**, professor and director, Division of Biomaterials and Tissue Engineering, co-authored "Novel Bioactive Nanocomposite for Class-V Restorations to Inhibit Periodontitis-Related Pathogens," which was published last fall in *Dental Materials*. The three also were among the co-authors of "Do Dental Resin Composites Accumulate More Oral Biofilms and Plaque Than Amalgam and Glass Ionomer Materials?" which was published in the November issue of *Materials*.

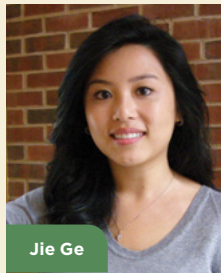
Melo, Xu, and **Michael D. Weir, MS, PhD**, research assistant professor, Division of Biomaterials and Tissue Engineering, are co-authors of "Effects of Long-Term Water-Aging on Novel Anti-Biofilm and Protein-Repellent Dental Composite," which was published last winter in the *International Journal of Molecular Sciences*. Melo also was the leading author for the study "Ph-Activated Nano-Amorphous Calcium Phosphate-based Cement to Reduce Dental Enamel Demineralization," which was published in the February issue of *Artificial Cells, Nanomedicine, and Biotechnology*.

Se-Lim Oh, DMD, MS, assistant professor, Department of Periodontics; **Radi Masri, BDS, MS, PhD**, associate professor, Department of Advanced Oral Sciences and Therapeutics; and **Elaine Romberg, PhD**, professor emeritus, were among the co-authors of "Free Gingival Grafts for Implants Exhibiting Lack of Keratinized Mucosa: A Prospective Controlled Randomized Clinical Study," which in January was published in the *Journal of Clinical Periodontology*.

Howard Strassler, DMD, FADM, FAGD, professor, Division of Operative Dentistry, gave a presentation titled "ABCs of Bulk Fill Composite Resins" at the International Conference on Light Sources in Dentistry held in November at Dalhousie University in Halifax, Nova Scotia. He also led two panel discussions.

AWARDS & SCHOLARSHIPS

Vineet K. Dhar, BDS, MDS, PhD, associate professor and division chief, Division of Pediatric Dentistry, was awarded a \$2,195 scholarship from the American Dental Education Association (ADEA) for the 2017 ADEA Leadership Institute Phase V Leadership Development Tuition Scholarship – ADEA/ALL Chairs and Academic Administrators Program.



Jie Ge

Student **Jie Ge** was awarded a \$2,500 scholarship from the American Dental Education Association (ADEA) as part

of the 2017 ADEA/GlaxoSmithKline Consumer Healthcare Preventive Dentistry Scholarship.



Joel Greenspan

Joel D. Greenspan, PhD, professor and chair, Department of Neural and Pain Sciences, and **Richard Traub, PhD**, professor and vice chair, Department of Neural and Pain Sciences, received the Most Cited Paper Award for the article most frequently cited during 2016 in *Pain*, the official journal for the



Richard Traub

International Association for the Study of Pain. Their 2007 paper is titled "Studying Sex and Gender Differences in Pain and Analgesia: A Consensus Report" and was co-authored with Margaret M. McCarthy, PhD, professor and chair, Department of Pharmacology, School of Medicine.

Marion C. Manski, RDH '88, MS '04, associate professor and director, Dental Hygiene Program, is the 2017 recipient of the Irene Newman Professional Achievement Award. Presented by the American Dental Hygienists' Association (ADHA) and Colgate, the honor is given to a clinical dental hygienist with 15 years of ADHA membership, achievement in education, and leadership in recognition of outstanding clinical expertise relating to interdependence of clinical practice and patient education for the improvement of patient compliance. Manski received the award in June at the ADHA's annual session in Jacksonville, Fla. She also is among the "Six Dental Hygienists You Want to Know" selected by *Dimensions of Dental Hygiene*.

Norbert Myslinski, PhD, associate professor, Department of Neural and Pain Sciences, was named 2016 Science Educator of the Year by the Society for Neuroscience at its annual conference in San Diego.

Student **Eberechukwu Njoku** was named a 2017 Paul Ambrose Scholar in April during the Public Health Leadership Symposium in Savannah, Ga.

CONGRATULATIONS

Robert A. Ord, DDS, MD, FRCS, FACS, MS, professor and chair, Department of Oral and Maxillofacial Surgery, has been named associate dean of professional development.

Sheryl Syme, RDH '88, MS, associate professor and director, BS Degree Completion Program, Division of Dental Hygiene, was featured in the American Dental Hygienists' Association (ADHA) September/October *Access* magazine in an article on community service grants awarded by the ADHA's Institute for Oral Health.

CONTINUING EDUCATION COURSES



➤ Nitrous Oxide Administration and Monitoring for the Dental Hygienist

Presented by
Deborah Cartee, RDH '02, MS

Saturday, Sept. 9
8 a.m. to 3 p.m.

➤ Hot Topics on Issues Affecting Pharmacotherapy in Dentistry

Presented by
Richard L. Wynn, PhD

Saturday, Sept. 16
8 a.m. to 3:30 p.m.

➤ Direct Resin Artistry Anterior/Posterior

Presented by
Paul Bylis, DDS

Friday, Oct. 6
8 a.m. to 4 p.m.

➤ Fundamentals of Medical Billing By Dental Practices

Presented by
Chris Farrugia, DDS

Saturday, Oct. 7
8 a.m. to 3 p.m.

➤ Local Anesthesia for the Dental Hygienist

Presented by
Marion Manski, RDH '88, MS '04

Thursday-Saturday, Oct. 26-28
8 a.m. to 5 p.m.

➤ Mindfulness in Medicine and Dentistry: Techniques to Reduce Stress and Improve the Health of Your Patients, Your Staff, and Yourself

Presented by
Mark Abramson, DDS '75

Saturday, Oct. 28
8 a.m. to 4:30 p.m.

➤ The Single Tooth Implant: The Ultimate Esthetic Challenge/ To Pull or Not to Pull: Periapical Surgery vs. Implant Surgery

Presented by *Daniel G. Pompa, DDS*

Saturday, Nov. 4
8 a.m. to 3:30 p.m.

➤ Cone Beam CT Imaging & Principles: Part I Basic Training

Presented by *Jeffery B. Price, DDS, MS; Martina Parrone, DDS, MS*

Saturday, Nov. 4
8 a.m. to 5 p.m.

➤ Nitrous Oxide Review

Presented by
Marvin Leventer, DDS '90

Saturday, Nov. 11
8 a.m. to 4:30 p.m.

➤ Patient-Centered Pediatric Dentistry

Presented by
Vineet Dhar, BDS, MDS, PhD; Norman Tinanoff, DDS, MS

Saturday, Dec. 2
8 a.m. to 3:30 p.m.

➤ Infection Control is Not Optional/Proper Pharmacologic Prescribing and Disposal/Scope of Abuse

Presented by
Louis DePaola, DDS '75, MS; Marvin Leventer, DDS '90; Christine Wisnom, RN, BSN

Saturday, Dec. 9
8 a.m. to 4 p.m.

➤ Local Anesthesia for the Dental Hygienist

Presented by
Marion Manski, RDH '88, MS '04

Thursday-Saturday, Dec. 14-16
8 a.m. to 5 p.m.

FOR MORE INFORMATION

For more information about our continuing education courses, all held at the University of Maryland School of Dentistry, call 410-706-2282 or visit www.dental.umaryland.edu/ce.



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