

Advancing Oral Health.  
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**SALUTING EXCELLENCE**  
UMSOD's Man-Kyo Chung  
is named UMB Researcher  
of the Year.

**SEEKING SOLUTIONS**  
The Summer Research  
Program draws students  
with a drive to discover.

**WITH DISTINCTION**  
Scientist Leslie Costello  
is honored as a Distinguished  
University Professor.

# Mdental

THE MAGAZINE OF THE UNIVERSITY OF MARYLAND SCHOOL OF DENTISTRY | FALL 2022

## HANDS-ON LEARNING

From sutures to sealants,  
Baltimore youths hone  
dental techniques at Planet  
Smilez Discovering  
Dentistry Camp.







# OfNote

Jazmin Jones, DDS '22, is among the inaugural winners of the Dr. Jeanne Craig Sinkford Student Leadership Award presented by the American Dental Education Association to students at U.S. and Canadian dental schools.

In 1975, Jeanne C. Sinkford, DDS, PhD, was named dean of Howard University College of Dentistry, the first woman to hold the title at a dental school in the United States. Renowned for her scholarship, Sinkford championed the advancement of underrepresented minority and women students and faculty in dental education.

As a student, Jones served as president of the Dental Class of 2022 and held many other leadership roles including in chapters of the Hispanic Dental Association, American Student Dental Association, and Maryland Academy of Pediatric Dentistry. In 2021, she was named the University of Maryland, Baltimore's Founders Week Student of the Year. After graduation, she began four years of obligated U.S. Army service beginning with the rank of captain. **M**

— HOLLY SELBY



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Throughout the summer and fall, it has been rewarding to see our dental and dental hygiene students, faculty, and staff again filling classrooms and clinics, engaging in neighborhood community service projects, and celebrating milestone events in person. And it was a particular pleasure to welcome the University of Maryland, Baltimore's (UMB) CURE Scholars back to 650 W. Baltimore St., to participate in hands-on learning in our lecture halls and simulation lab as part of the Planet Smilez Discovering Dentistry Camp.

Our students and faculty were able to engage in other on-site community projects such as the Special Smiles Program — part of the Special Olympics Maryland Summer Games — through which our students offer free oral health screenings and education to the athletes. Notably, I am very pleased to announce that the University of Maryland School of Dentistry (UMSOD) chapter of the Student National Dental Association was named Chapter of the Year, the ninth consecutive year it has received first or second place in recognition of its outreach and engagement efforts!

Through the Oral Health for Underserved Uninsured Children program, part of the Department of Pediatric Dentistry and Orthodontics, our faculty, residents, and students are working to expand access to dental care to children from Baltimore and surrounding areas who otherwise might not receive it. By working with regional community partners to identify and refer patients, the program treats up to 400 underserved children annually.

There have been many other successes and accomplishments in recent months at UMSOD, all detailed within this issue of *Mdental*. In September, at UMB's inaugural Faculty Convocation, Leslie Costello, PhD, was named a University Distinguished Professor in recognition of his acclaimed career and many accomplishments. The honor, bestowed during the convocation, made the ceremony all the more celebratory.

Additionally, Man-Kyo Chung, DMD, PhD, professor in the Department of Neural and Pain Sciences, assistant dean of research and graduate studies, and co-director of the University of Maryland Center to Advance Chronic Pain Research, was named the UMB Founders Week Researcher of the Year. My congratulations to both Drs. Costello and Chung.

Lastly, I am very pleased to mention the establishment of the Gordon M. Bell, DDS, and Holly G. Bell, CRNP, Endowed Professorship — the school's fifth endowed professorship. The professorship, established last summer, is intended to support and advance our superlative faculty and will create a legacy of excellence at UMSOD. My deepest thanks to the Bells!

I hope you will enjoy reading about these and many other successful programs, research projects, and community outreach initiatives at the School of Dentistry in this issue.

Best regards,

**Mark A. Reynolds, DDS '86, PhD**  
*Dean and Professor*

# Mdental

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## ON THE COVER

Tavon Carroll, an eighth-grade student at Green Street Academy, practices suturing during Planet Smilez, a weeklong dentistry camp at UMSOD.

Photo by Matthew D'Agostino / UMB

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# OnTheCusp



Photo by Matthew D'Agostino / UMB

## UMSOD Professor Chung Named UMB's Researcher of the Year

BY HOLLY SELBY

Man-Kyo Chung, DMD, PhD, professor in the University of Maryland School of Dentistry's (UMSOD) Department of Neural and Pain Sciences; assistant dean of research and graduate studies; and co-director of the University of Maryland Center to Advance Chronic Pain Research (CACPR), is a 2022 University of Maryland, Baltimore (UMB) Founders Week award winner as Researcher of the Year.

The Founders Week awards are given annually by the University in recognition of remarkable accomplishments by UMB's faculty, staff, and students in academics, public service, research, entrepreneurship, and education.

"It is my great honor to receive this award, and I thank my lab members, mentors, and colleagues. I am amazed at how my career as a dentist-scientist

has been evolving in the outstanding environment at UMSOD and UMB," Chung said.

Renowned for his investigations into the molecular mechanisms of oral and craniofacial pain and the neural regulation of alveolar bone remodeling, Chung has received funding from industry entities as well as federal and state agencies. In recognition of his accomplishments, the National Institute of Dental and Craniofacial Research (NIDCR), part of the National Institutes of Health, awarded Chung an eight-year, \$8 million R35 grant for Sustaining Outstanding Achievement in Research in 2020. The grant, given to mid-career NIDCR-funded individuals, recognizes not just previous research achievements, but also leadership in the oral health field.

Saying that Chung and his research team have made great strides toward

understanding the peripheral and central neurobiological mechanisms underlying dental pain, craniofacial muscle pain, and neuropathic pain, Mark A. Reynolds, DDS '86, PhD, UMSOD dean and professor, said, "I am very pleased that Dr. Chung's achievements have been recognized on a national level and also are being honored by UMB with a Founders Week award."

Reynolds also noted that Chung is the fifth from UMSOD to be recognized with a UMB Founders Week award since 2015, joining Jazmin Jones, DDS (Student of the Year, 2021); Robert K. Ernst, PhD (Entrepreneur of the Year, 2019; Researcher of the Year, 2017); Valli Meeks, DDS, MS, RDH, (Public Servant of the Year, 2018); and Norman Tinanoff, DDS, MS (Public Servant of the Year, 2015).

Chung trained first as a dentist in his native South Korea. He joined UMSOD 14 years ago after completing a postdoctoral fellowship at Johns Hopkins University School of Medicine. As co-director of CACPR, Chung works to cultivate collaborative environments throughout UMB for basic, translational, and clinical pain research aimed at improving the well-being of chronic pain sufferers.

Chung, who, after serving for nine months in an interim capacity, was named in early fall as UMSOD's assistant dean of research and graduate studies, also is committed to enriching the research programs of UMSOD and creating platforms for recruiting and training future leaders in oral, dental, and craniofacial research.

To read more about Chung and view a video, visit: [www.dental.umaryland.edu/FoundersWeek2022](http://www.dental.umaryland.edu/FoundersWeek2022). 

# UMSOD's SNDA Chapter Garners National Recognition for Ninth Year in a Row

BY HOLLY SELBY



Members of UMSOD's 2021-22 executive committee

The University of Maryland School of Dentistry's (UMSOD) Student National Dental Association (SNDA) received top national awards in June in recognition of its fundraising, community service work, and outreach aimed at encouraging students from underrepresented communities in Baltimore to pursue careers in oral health.

The student group received SNDA's 2022 Chapter of the Year Award in the category of large chapters for its outstanding outreach programs and events throughout the year. This is the ninth consecutive year that UMSOD's chapter has won first or second place in the national competition.

UMSOD's chapter also won SNDA's Video Scrapbook Competition first-place prize, which recognizes the best student-produced video depicting a chapter's events and memories from the academic year.

Referring to the chapter's impressive legacy, Courtney Kane, a fourth-year dental student who served as president in 2021-22, noted that she was "definitely aware that I had quite big shoes to fill this year."

As president, Kane tried to "access our historical trends, have discussions with former executive board members, and do my best to maintain a family-like dynamic within our organization."

The Chapter of the Year competition is based upon each chapter's success in

fundraising, performing community service, and launching new initiatives. Additionally, the chapters are assessed on how they execute national programs including Impressions Day, during which pre-dental undergraduate students visit dental schools; a holiday canned food or toy drive; and several student panels throughout the year.

"I am very proud of our chapter's continued record of achievement," said Mark A. Reynolds, DDS '86, PhD, UMSOD dean and professor.

"Each year, this remarkable group finds new and innovative ways to meaningfully impact our communities and advance our profession. Whether through direct community service, mentorship of youth in the Baltimore area, or extending vital support of one another's success, this chapter is a source of great pride for our school and university communities."

Noting that the SNDA's programs enhance larger-scale efforts aimed at developing culturally competent clinicians and researchers who are prepared to serve diverse communities, Reynolds added, "Individually and collectively, our SNDA members soar — inspiring an interest in the health sciences among younger students and actively encouraging their pursuits of careers in oral health."

At the 2022 Impressions Day, which was held April 23, college students from around the country

toured UMSOD virtually, took part in a student question-and-answer panel, participated in mock admissions interviews, and discussed how to successfully apply to dental school.

"I am very proud of these students. Every year, I am blown away by the things they accomplish," said Andrea Morgan, DDS, MS, clinical assistant professor and director of student advocacy and cultural affairs.

"They supported the local Baltimore community while extending the legacy of SNDA by offering unique pre-dental experiences and reimagining how events can be held — despite the ongoing uncertainties caused by COVID. But I am most impressed by how they take care of each other."

The chapter held or participated in as many as nine initiatives or programs each month throughout the academic year. These ranged from bonding events, continuing education courses, and leadership workshops to tutoring sessions and monthly food deliveries to Manna House to support those in need.

SNDA members also participated in one of the chapter's signature programs, Generation NeXT, through which dental students provide virtual monthly mentorship to high school students at Vivien T. Thomas Medical Arts Academy. **MD**



# Dental Museum Programs Introduce Children to Oral Health, History, and Potential Careers

BY PATRICIA FANNING

Scholars fly from as far away as Great Britain. Students take a school bus. Tourists — aiming to visit a Smithsonian affiliate — drive. And preschoolers, getting ready for a first dental visit, arrive in the arms of their parents.

All are bound for the Dr. Samuel D. Harris National Museum of Dentistry (NMD), the leading steward of dental history and a designated Smithsonian Affiliate.

The museum long has been a prominent resource for dentistry, going back to the 1840 founding of the world's first dental college, which collected artifacts. The college became the University of Maryland School of Dentistry (UMSOD), and the collection was handed down. In 2003, Congress designated NMD as the official national museum of dentistry in the United States.

Located on Greene Street, NMD advances oral health through

education, serves as a cultural bridge between dentistry and the public, and celebrates the profession's heritage. Its collection of more than 40,000 items holds many that are unique.

One is Apollo 10 astronaut Eugene Cernan's toothbrush. The toothbrush was among the very few spaceflight components not modified by NASA, says curator Scott Swank, DDS, MS, MBA, FACD, clinical assistant professor at UMSOD. "It was *as is*," he said in a recent University of Maryland, Baltimore (UMB) podcast.

When the COVID-19 pandemic caused the museum to shut down in 2020, digital exhibits kept dental history accessible. In 2022, NMD reopened and resumed its popular school tours. Once again, youngsters could see a megalodon tooth, 19th-century instruments, and George Washington's dentures.

Now a new in-person program, *Ready for the Dentist!*, eases anxieties



A group from the National Institute of Dental and Craniofacial Research Office of Training and Education toured the Dr. Samuel D. Harris National Museum of Dentistry in July.

around the first dental visit by inviting little ones to sit in a dental chair and try out a bib and X-ray apron. The reward: a badge to wear to their dentist's office.

Meanwhile, older children gain an affinity for oral health, learn about trailblazers, including women and minority dentists — and may even glimpse future careers.

*Listen to the UMB podcast at [umaryland.edu/pulse](http://umaryland.edu/pulse). **MD***

## Student Volunteers Help Spanish-Speaking Patients with Translations as They Navigate Dental Visits



Photo by Holly Selby

Third-year dental student Cesar Hernandez, who organized a translation service through which fellow students may volunteer as interpreters for Spanish-speaking patients, stands with fourth-year student Samantha Brown, whose patient he helped.

As a first-year dental student, Cesar Hernandez, who was born in Cuba and raised in the United States, frequently was asked by third- and fourth-year students to help translate dental treatment plans for patients who spoke only Spanish.

Although his fellow students were able to use translation apps on their mobile phones when speaking to their patients, Hernandez noticed that when he introduced himself in Spanish, "the patients were so excited because they felt more comfortable, understood more, and could ask questions."

He saw a need and last year launched an unofficial volunteer program through

which Spanish-speaking dental students may donate their time as translators in the University of Maryland School of Dentistry's (UMSOD) predoctoral clinics.

Now a third-year student, Hernandez has a roster of nearly 20 volunteer student translators, and clinicians who wish to ask for translation services can do so by scanning a QR code. Last summer, UMSOD began granting community service credit to the volunteers. Additionally, third-year students may opt to receive credit for assisting during clinical procedures. **MD**

— HOLLY SELBY

# Quest for Discovery Draws Students to Summer Research Program

BY PATRICIA FANNING



Man-Kyo Chung, professor in UMSOD's Department of Neural and Pain Sciences, assistant dean of research and graduate studies, and co-director of the University of Maryland Center to Advance Chronic Pain Research; Abraham Schneider, associate professor in the Department of Oncology and Diagnostics Sciences (ODS) and director, Dental Biomedical Sciences PhD Program; second-year dental student Longhui Gao, first-place winner; Mary Ann Rizk, ODS professor and lead mentor; and Hening Ren, ODS assistant professor and lead mentor of undergraduates

Discovering novel ways to improve oral health demands a desire for knowledge and a quest for discovery. To help instill that drive, the University of Maryland School of Dentistry (UMSOD) holds an annual nine-week Summer Research Training Program.

Last summer, 13 dental students and four undergraduates conducted research, each guided by a faculty mentor. In laboratories at UMSOD, the pairs bonded over such projects as drug research and disease prevention.

As a finale, students displayed their scholarship, clarity, and creativity in a poster contest. A panel of judges honored three predoctoral students:

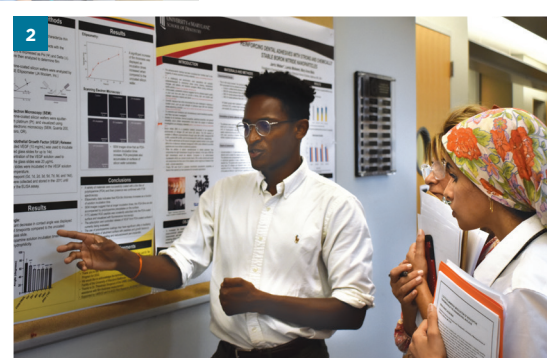
- Second-year dental student Longhui Gao won first place for his display of biomaterials research to enhance dentin repair. His faculty mentor was Abraham Schneider, DDS, PhD, associate professor in the Department of Oncology and Diagnostic Sciences (ODS). They sought to show how a diabetes drug, metformin, might be repurposed as a novel bioactive direct pulp capping cement to potentiate dentin repair in exposed vital dental pulps following deep caries removal, traumatic injuries, or accidental restorative procedures.





1. Members of the 2022 Summer Research Program

2. First-year dental student Cameron Watson discusses his research project with Areej Alfaifi, BDS, MDS, a doctoral candidate in the Dental Biomedical Sciences Program.



Photos by Holly Selby

**“I believe this experience is critical to the development of these students as they grow into future leaders in dentistry through the discovery of novel treatments and advances in patient care.”**

— **MAN-KYO CHUNG, ASSISTANT DEAN OF RESEARCH AND GRADUATE STUDIES AND PROFESSOR, UMSOD'S DEPARTMENT OF NEURAL AND PAIN SCIENCES**

- Jair Sinisterra, also a second-year student, earned second place. He was mentored by Vivek Thumbigere Math, BDS, PhD, assistant professor in the Division of Periodontics. Their research explored molecular mechanisms that dictate periodontal disease progression and how these processes can lead to the incidence of irritable bowel disease.
- Cameron Watson, a first-year dental student, received honorable mention for research seeking to curb peri-implantitis that develops in implant recipients. Michael D. Weir, PhD, research assistant professor in the Division of Biomaterials and Tissue Engineering, was his mentor.

In recognition of their achievements, the two top winners, Gao and Sinisterra, received travel funds to compete in the Hinman Student Research Symposium, which was held in October in Memphis, Tenn. (Most participating students received a \$3,392 stipend from UMSOD for their work in the labs.)

“I believe this experience is critical to the development of these students as they grow into future leaders in dentistry through the discovery of novel treatments and advances in patient care,” said the program’s director, Man-Kyo Chung, DMD, PhD, assistant dean of research and graduate studies; professor in the Department of Neural and Pain Sciences; and co-director, University of Maryland Center to Advance Chronic Pain Research.

Other faculty members participating in the program included ODS professor Mary Ann Rizk, PhD, lead mentor; ODS assistant professor Hening Ren, PhD, lead mentor of undergraduates; and Nichole Mitchell, program coordinator.

Students gained hands-on biomedical research experience and studied statistical analysis and science ethics. They perfected scientific writing while preparing abstracts. And in July, during what some likened to a command performance, they delivered a five-minute oral presentation.

Why the twinge of anxiety in describing their projects? Students spoke before audience members with impressive credentials, especially while envisioning a possible research career. Attending were fellows of the National Institute of Dental and Craniofacial Research and its intramural training director, Belinda R. Houser, PhD.

Earlier in the summer, students participated virtually in the institute’s career day. After being introduced to research, some were intrigued.

“It was all really new to me,” said Elvia Jimenez Ciriaco, who investigated using artificial intelligence for radiographic caries detection. She was motivated to add UMSOD’s research-with-mentors elective to her second-year courses. Her mentor is ODS professor Nasir Bashirelahi, PhD. That means her project — and the shared quest for discovery — continues. **MD**

# UMSOD Researcher Costello Honored

## as Distinguished University Professor at UMB's Inaugural Faculty Convocation

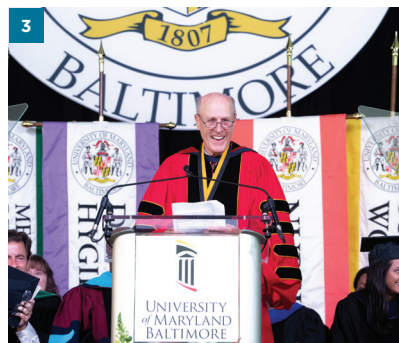
BY HOLLY SELBY



**1. FROM LEFT:** Mark A. Reynolds, DDS '86, PhD, UMSOD dean and professor; Leslie Costello, UMB Distinguished University Professor and UMSOD professor, Department of Oncology and Diagnostic Sciences; Bruce E. Jarrell, UMB president; and Roger J. Ward, provost and executive vice president, UMB, and dean of the Graduate School

**2.** UMB Faculty Senate president Joshua Abzug, MD, leads the opening procession during the Faculty Convocation on Sept. 8.

**3.** UMB President Bruce E. Jarrell offered remarks before presenting medals to the Distinguished University Professors. An accomplished metalsmith, Jarrell added a personal touch by forging the medals for the ceremony.



Photos by Matthew D'Agostino / UMB

Noting that the University of Maryland, Baltimore (UMB) is “an excellent university,” Roger J. Ward, EdD, JD, MSL, MPA, provost, executive vice president, and dean of the Graduate School, added: “It is therefore only fitting that we take time today to recognize and celebrate those who make us so, our faculty.”

His remarks came as he launched the University’s inaugural Faculty Convocation on Sept. 8 in an on-campus outdoor ceremony.

The event included talks by speakers from UMB’s schools of law, nursing, and pharmacy, as well as

the presentation of medals by UMB President Bruce E. Jarrell, MD, FACS, to seven Distinguished University Professors.

The title of Distinguished University Professor is the highest appointment bestowed on a faculty member at UMB. It is a recognition not just of excellence, but also of impact and significant contribution to the nominee’s field, knowledge, profession, and/or practice.

The seven honorees included Leslie Costello, PhD, professor in UMSOD’s Department of Oncology and Diagnostic Sciences. Costello, who

joined the faculty in 1980, focuses his research on the metabolism of cancer cells. Since receiving his first National Institutes of Health and National Science Foundation grants more than four decades ago, he has been awarded about \$30 million through 31 grants.

Noting that what he says about each recipient “can only be a mere snippet” of their accomplishments, Ward described Costello’s “discoveries and insights as having widespread implications for the understanding and treatment of prostate cancer, as well as breast, pancreatic, liver, and head and neck cancers.”

*To read more about Costello and the other honorees, visit: [www.umaryland.edu/president/distinguished-university-professors](http://www.umaryland.edu/president/distinguished-university-professors). MD*



# ByTheNumbers



## Introducing the Class of 2026

If its 135 members were statistics instead of (very smart) people, the University of Maryland School of Dentistry's (UMSOD) Class of 2026 would be 24 years old on average, more likely than not to be from Maryland (75 Marylanders, 60 non-Marylanders) and on their way to earning degrees as Doctors of Dental Surgery. Here is a numerical snapshot of UMSOD's next DDS class.



## DDS Class of 2026

### 135 students

82 female students  
52 male students  
1 student declined to state

### 3 students

from another country

### 60 Non-Marylanders

(from 13 states including Arizona, California, Virginia, Pennsylvania, and Florida)

### 11 students

hold Master of Science degrees

**24** average age of students

**15%** of first-year students are Black

**11%** of first-year students are Hispanic

**33%** of first-year students are Caucasian

**40%** of first-year students are Asian

\* 1% not provided

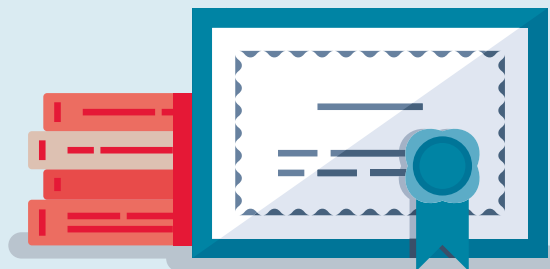




Photo by Kari Syme

University of Maryland School of Dentistry student volunteers demonstrate proper brushing techniques to Special Olympics athletes.

## Dental Students Bring Smiles to Special Olympics Maryland

For dental hygiene student Tymarín Ward, it was only natural that he volunteered at the 2022 Special Olympics Maryland Summer Games.

“My older brother has autism,” said Ward, who is a second-year student in the dual-degree Clinical Dental Hygiene Leader program at the University of Maryland School of Dentistry (UMSOD). “This is something I’ve wanted to do for a while.”

From June 17-19, the Special Olympics Maryland Summer Games returned to the campus of Towson University after a two-year hiatus with over 4,000 athletes eager to compete in bocce, softball, swimming, cheer, and track and field.

Ward, along with 47 other dental and dental hygiene students, provided oral health care services to athletes

through the Special Smiles Program — the dental health component of the Special Olympics Healthy Athletes Village. Started in 1997, Healthy Athletes offers free screenings including vision, hearing, and dental in a welcoming, fun environment.

Special Smiles allows athletes with intellectual disabilities the opportunity to take charge of their oral health. The screenings, performed by UMSOD students, are designed to increase awareness of the importance of oral health for the athletes, as well as their parents and caregivers.

In addition to screenings, which document athletes’ oral health through a series of questions, students applied fluoride, fitted custom mouthguards, and taught athletes proper brushing and flossing techniques.

The screenings are particularly important for athletes with intellectual disabilities. Special Smiles examinations have found that a large percentage of Special Olympics athletes in the United States are unaware of the condition of their oral health, with 49 percent showing signs of gum disease and 25 percent with untreated tooth decay.

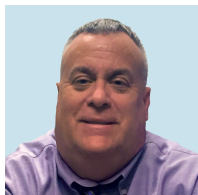
“There were a few athletes that had pretty significant dental caries,” said Sheryl Syme, RDH, MS, associate professor, Division of Periodontics, as well as Maryland Special Smiles clinical director. “We’ll be following up with them to make sure that they’re getting treatment either by their own private dentist or to find placement at the School of Dentistry.”

And while treating and educating patients is an important mission for Special Smiles, it also provides valuable lessons for UMSOD students.

“This isn’t just a free health screening for our athletes,” said Kayla Shields, director of inclusive health and fitness at Special Olympics Maryland. “Healthy Athletes is also used as a health education tool for students and health professionals to get them more experience with working with individuals with intellectual disabilities.” **MD**

— LAURA LEE

## Accolades



◀ **William F. Hoffman Jr., MAS**, research administrator, co-presented two discussions at the Society of Research Administrators’ International Northeast-Southern Section Meeting in Philadelphia: “Same Goal, Different Paths: NIH and a Recipient Organization

Talk About Grants” and “Human Resources Management and Best Practices for the Department Administrator.”



◀ **Courtney Jackson, DDS**, endodontics resident, received first place for her table clinic “A Little Bit of Lagniappe: Treating Dental Problems in a Hospital Emergency Department” at the American Association of Endodontists’ annual session in Phoenix in April.



# Understanding the Power of Mentorship



University of Maryland School of Dentistry (UMSOD) student Nouraldein Elshamma is a 2022 recipient of an International College of Dentists and Washington University Dental Alumni Association Scholarship. Aimed at mitigating the expense of dental school and raising awareness of the challenges posed by dental school student debt, the scholarship is awarded annually to qualified students, including international students, who are enrolled in a United States dental school.

Elshamma is the second UMSOD student to receive the scholarship. In 2020, Eugene Bestman, DDS '21, was among the inaugural scholarship winners.

“I am very happy they chose me as a recipient of this scholarship,” Elshamma said. “It will make a big difference to me.”

A first-generation American, college graduate, and DDS candidate, Elshamma was born in New Jersey but moved with his family to Cairo, Egypt, where he attended middle and high school. He returned to the United States to earn a bachelor’s degree in exercise science at Rutgers University.

As a teenager living in Cairo, Elshamma saw firsthand the extraordinary adverse impact that poverty can have on people’s lives. The experience left an indelible impression and created a lasting desire to help others.

“When you live in a Third World country, you experience poverty in a way that you typically do not in this country, so you automatically feel you need to do more,” he said. “My early life cemented my wish to do public service.”

Before coming to Baltimore, Elshamma, now a third-year dental student, was vice president and medical outreach chair for the Palestine Children’s Relief Fund, a nongovernmental organization

that supports youths throughout the Middle East. He also served as an emergency medical services worker and volunteered at a geriatric community.

At UMSOD, Elshamma serves as a University of Maryland, Baltimore class representative, is a member of the Student National Dental Association, and mentors a high school student through Thread, a Baltimore nonprofit that connects youths with a support system composed of a broad range of university and community-based volunteers.

“As the son of immigrants, I didn’t always have the guidance [when applying for college or dental school] that others have,” he said. “I understand the value of it, and I want to do something for others — something that I wish I had had when I was in their footsteps.”

Looking ahead, Elshamma hopes to use his DDS degree to take care of those in need. He plans to use his skills to deliver oral health care to populations that historically may not have access to dental care. **MD**

— HOLLY SELBY



◀ **Ebtahal Albeshir, BDS, MSD, and Rashed Alsahafi, BDS, MS**, doctoral students, Dental Biomedical Sciences Program; **Thomas W. Oates, DMD, PhD**, chair; **Gary D. Hack, DDS**, clinical associate professor, Division of Prosthodontics; **Michael D. Weir, PhD**,

research assistant professor, Division of Biomaterials and Tissue Engineering; **Huakun Xu, PhD, MS**, director, Division of Biomaterials and Tissue Engineering, all of the Department of Advanced Oral Sciences and Therapeutics, co-authored “Low-Shrinkage Resin Matrices in Restorative Dentistry-Narrative Review,” published in *Materials*.



▲ Dental hygiene students **Paige Christensen, Hee Yeon Kim, and Kristin Yates** received top honors in the Maryland Dental Hygiene Spring Scientific Research Presentation Sessions for “Assessing Postpartum Oral Health Literacy and Needs as Medicaid Expands.”

# UMSOD's Division of Pediatric Dentistry

## Works to Expand Children's Access to Oral Health Care

BY HOLLY SELBY



Second-year University of Maryland School of Dentistry resident Jasmine Butler, DDS, provides treatment to a pediatric dental patient.

Photos by Matthew D'Agostino / UMB

When an 8-year-old girl came to the University of Maryland School of Dentistry (UMSOD) in October 2021, she was in great pain. An examination revealed that she needed almost all of her primary molars extracted.

Just over a year later, the extractions have been completed, crowns have been made for intact primary molars, and sealants have placed on permanent molars —

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**“We made the dental appliances in-house because it is less expensive, and we really try to do all we can so that there is no charge to these patients.”**

— ANNA JUAMBELTZ, DDS '21

at no cost to the girl's parents who are recent immigrants and uninsured.

The girl's dental care was provided as part of UMSOD's Oral Health for Underserved Uninsured Children (OH-UUC) program, which aims to expand access to dental care for children from Baltimore and surrounding areas.

“Many of these patients' parents have recently come into the country, have few resources, and don't know where to go for help,” said Anna Juambeltz, DDS '21, a second-year resident in UMSOD's Division of Pediatric Dentistry.

In addition to the extractions, Juambeltz said, UMSOD clinicians fabricated orthodontic appliances that would ensure the integrity of the dental spacing in the girl's mouth. “We made the dental appliances in-house because it is less expensive, and we really try to do all we can so that there is no charge to these patients,” she said.



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**“Every child deserves to have a dental home. OH-UUC represents an essential building block for improving oral health in a population that’s often overlooked.”**

— VINEET DHAR, BDS, MDS, PHD, CLINICAL PROFESSOR AND CHAIR OF UMSOD’S DEPARTMENT OF ORTHODONTICS AND PEDIATRIC DENTISTRY

For the past decade, the OH-UUC program has worked with regional community partners to identify and refer patients, serving up to 400 children annually. The children — for reasons ranging from poverty to immigration issues — need education about and access to quality oral health care and a dental home.

“Every child deserves to have a dental home. OH-UUC represents an essential building block for improving oral health in a population that’s often overlooked,” says Vineet Dhar, BDS, MDS, PhD, assistant dean of postgraduate and professional studies in dentistry, clinical professor, and chair of the Department of Orthodontics and Pediatric Dentistry at UMSOD, who oversees the program.

Now, thanks to two recent \$100,000 grants from the Delta Dental Community Care Foundation of Washington, D.C., and the Baltimore-based Abell Foundation, UMSOD will be able to expand Baltimore-area children’s access to oral health care, regardless of their household’s ability to pay.

“I am deeply grateful to both foundations for their support, which will allow us to provide essential dental treatment to children who truly need it,” Dhar said. “I also would like express my appreciation to the American Academy of Pediatric Dentistry Foundation and the Maryland Department of Health for their support during the last three to four years; their grants helped lay the foundation of the current program.”

The Delta Dental Community Care Foundation works with nonprofit partners across 15 states and the District of Columbia to strengthen communities by increasing access to dental care and oral health education and supporting organizations doing this vital work. This is the second consecutive year that the Delta Dental Community Care Foundation has supported OH-UUC.

“Over the last two years, Delta Dental’s generous grants have allowed us to formalize the program,” Dhar said. “They allow us to increase visibility, expand our horizons, and make the model more sustainable.”

The Abell Foundation focuses exclusively on Baltimore City and supports organizations that work to reduce racial disparities in access to health care. “Partnering with Abell is great because the foundation’s focus is similar to ours:



Vineet Dhar, who oversees the Oral Health for Underserved Uninsured Children Program, is thankful for the support of nonprofit organizations.

Baltimore City, where the need is greatest,” Dhar said. “It’s great to find mission-aligned partners who will work with us to support these children.”

Despite significant improvement in the last 15 years in oral health care for Maryland children, great need remains. More than 25 percent of Maryland children under age 17 (an estimated 375,861 children) lack sufficient health insurance, according to the 2018-19 National Survey of Children Health Outcomes, and 48,000 Maryland children do not have health insurance, primarily because they are not eligible for Medicaid.

The OH-UUC program offers services including examinations, preventive care, and comprehensive restorative care. The facilities available to OH-UUC at UMSOD include a 22-chair pediatric dental clinic dedicated to children under the age of 18 years. Providers in this clinic include six full-time faculty, eight pediatric dental residents, and 250 dental students who participate in patient care on a rotational basis.

“I have never seen anyone’s face light up as much as my patient’s parents,” said Jennifer Kim, DDS ’21, a second-year resident who is providing treatment to a 5-year-old boy who presented with nearly 20 cavities. “Now they have a dental home. He is halfway through his treatments, and it seems like it will be a happy ending for him.” **MD**

# Innovation + Discovery



Jin Ro



Joyce Teixeira Da Silva

## UMSOD Scientists Tackle Chronic Pain in Elderly

BY JOEL KABOT

The elderly, described by the National Library of Medicine as persons who are 65 years or older, make up a large and rapidly growing part of the U.S. population — and are at particular risk for chronic pain. But, according to Jin Ro, PhD, professor in the Department of Neural and Pain Sciences at the University of Maryland School of Dentistry (UMSOD), we don't know enough about chronic pain in the elderly.

“We have major gaps in our knowledge,” he says.

That's compounded by the fact that “the available pharmacological treatments remain suboptimal,” Ro says, partially due to the higher rate of multiple morbidities in the elderly and complications from many different types of medications.

Ro is on a mission to not only increase our understanding of chronic pain in the elderly, but to find more effective treatments, as well. He'll be

aided by a five-year, \$2.5 million grant awarded last summer by the National Institutes of Health's National Institute on Aging.

His research has its origins in recent studies that measure the body's ability to inhibit pain using a test known as conditioned pain modulation (CPM). Those studies show that the body's innate response to inhibit pain is less efficient in older adults.

So, age appears to be a precipitating factor in feeling pain — but we don't know why.

Enter Ro's study. Using animal models, his team previously determined that some brain circuits differed in older rats compared to their younger counterparts. Now, Ro aims to strengthen certain brain circuits using targeted chemogenetics — a new form of gene therapy — hoping that the body's inherent ability to inhibit pain also is strengthened as a result. He's looking first at individuals suffering

from osteoarthritis, a condition that disproportionately affects the elderly.

“We're not activating the entire brain, just selectively targeting those neurons specifically involved,” Ro says.

He's not limited to experimental gene therapy, either. Ro will investigate whether something a bit simpler can alleviate chronic pain by strengthening CPM: exercise.

“Studies show that exercise as a treatment is very promising, especially for the elderly,” he says. “That's especially true since it's so accessible.”

To measure outcomes of both therapies, he'll work alongside UMSOD colleagues and co-investigators Joyce Teixeira Da Silva, PhD, assistant professor, and David Seminowicz, PhD, adjunct associate professor, both also from the Department of Neural and Pain Sciences. They'll use functional magnetic resonance imaging to compare and contrast results.

Biostatistician and co-investigator Shuo Chen, PhD, professor in the Department of Epidemiology and Public Health at the University of Maryland School of Medicine, will examine the data, making this study a collaboration involving experts from throughout the University of Maryland, Baltimore (UMB).

“This interdisciplinary project connects schools at UMB, bringing colleagues together to research an understudied area,” Ro says. “We think this will produce novel results.”

But he is quick to add: “This is really just the start of our project. We want to expand research in this area and develop other projects targeting chronic pain in the elderly. We have so much to learn.” **MD**



## UMSOD Professor Awarded Prestigious MPower Professorship



Mary Ann Jabra-Rizk, PhD, professor in the University of Maryland School of Dentistry's (UMSOD) Department of Oncology and Diagnostic Sciences, is among six faculty members from the University of Maryland, Baltimore (UMB) and University of Maryland, College Park (UMCP), who in November were awarded MPower

Professorships by the University of Maryland Strategic Partnership.

The honor, which includes \$150,000 for each recipient over three years, is meant to fund strategic research collaborations between UMB and UMCP faculty members that hold the promise of producing novel results of high impact that ultimately will benefit Marylanders.

Jabra-Rizk, who also is an adjunct professor in the Department of Microbiology and Immunology at the University of Maryland School of Medicine, has a broad background in investigating the virulence factors in the opportunistic fungal pathogen *Candida albicans*, and the host and pathogen factors that play a role in the transition between colonization and

infection. Her lab has several ongoing projects focusing on development of biofilm-associated infections, fungal-bacterial interactions, development of drug resistance, and exploring novel therapeutic strategies, among other projects.

Jabra-Rizk, who is serving as a principal investigator on four National Institutes of Health-funded grants, two institutional, and two international grants, received her PhD in microbiology and immunology from UMB. She also holds a BS degree in medical technology, also from UMB, and a BS degree in medical laboratory medicine from the American University of Beirut. **MD**

— HOLLY SELBY



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# ALL SMILEZ

SUMMER CAMP OFFERS YOUNG STUDENTS  
A PEEK INTO DENTAL CAREERS

BY LAURA LEE





**“This is our future.  
When you see the excitement  
on these young people’s  
faces, you can’t help but  
be excited.”**

— **Andrea Morgan, DDS, MS, clinical assistant professor and director of student advocacy and cultural affairs**

**F**or the sixth year in a row, West Baltimore middle school students got hands-on experience in the oral health professions at Planet Smilez Discovering Dentistry Camp held at the University of Maryland School of Dentistry (UMSOD).

Held in July, the weeklong educational experience is a joint project involving UMSOD and Planet Smilez Inc., a nonprofit dedicated to oral education founded by Kathryn Pawlak, DDS '19.

It also falls under the umbrella of the University of Maryland, Baltimore (UMB) CURE Scholars Program, a groundbreaking year-round program that seeks to prepare middle school and high school students in West Baltimore for competitive and fulfilling careers in research, health care, and other STEM-related fields.

Launched in 2015, the UMB CURE program was the first National Cancer Institute Continuing Umbrella of Research Experiences (CURE) program in the country to engage scholars beginning in sixth grade. Aimed at inspiring and empowering its participants to pursue successful careers in health care and science, technology, engineering, and math (STEM) through mentorship and academic support, the program follows the students through middle and high school. An overarching goal is to build a diverse health care, cancer research, and STEM workforce and reduce medical and educational disparities.

This is a landmark year for the program: Last spring, the first cohort of CURE Scholars, who began as sixth-graders, graduated from high school — ready to head for college. All told, the 20 graduating scholars applied to 76 colleges and were admitted to 42.

**OPPOSITE PAGE, TOP:** Second-year dental student Imani Armour observes as Ja'Miara Pulley, an eight-grade student at Green Street Academy, hones her dental skills.

**BOTTOM:** In the simulation lab, dentistry camp participants get hands-on experience with dental techniques.



Joel Jones, a seventh-grade student at Southwest Baltimore Charter School, examines a skull during Planet Smilez Discovering Dentistry Camp.

Now, as she looked around a UMSOD simulation lab filled with 30 middle schoolers wearing white coats — the rising generation of CURE Scholars — Planet Smilez founder Pawlak envisioned a room full of budding dental students. “I’d love to see some of these students get into the field of dentistry, get into the field of dental hygiene,” she said. “Or even as the scholars go on to college, I’d love to see them come back and be students here.”

“This is our future,” said Andrea Morgan, DDS, MS, director of student advocacy and cultural affairs and clinical assistant professor who has been involved in UMB CURE since its inception. “When you see the excitement on these young people’s faces, you can’t help but be excited.”

Rising eighth-grader Messiah Parker feels energized, too. “I’ve been having the best time of my life,” said Parker, who wants to be a paleontologist but is now adding dentistry to his list of potential careers.

Participating CURE Scholars spent the week learning about oral hygiene, careers within the field of dentistry, head and neck anatomy, and oral cancer from volunteer UMSOD faculty members and students.

Donita Dyalram, DDS, MD, FACS, clinical associate professor in the Department of Oral and Maxillofacial Surgery, gave an in-depth presentation about oral cancer complete with clinical photos of the various stages of oral cancer. “It was interesting, but it did gross me out a little,” CURE Scholar Jamelle Smith said with a laugh.



Participants in the 2022 Planet Smilez Discovering Dentistry Camp, a weeklong immersive experience during which middle school students learned about oral health

**“It’s great for them to visualize and do it on their own and see how a sealant is placed. So, if they do end up getting a sealant, they’ll know how it is placed and how it works.”**

**— Alaina Zborai, Class of 2023**

On the fourth day of camp, scholars donned their white coats and headed to a simulation lab at UMSOD for several hours of hands-on learning — a highlight for many students. The simulation labs, which are designed to realistically prepare users to perform dental patient care procedures, gave campers an exciting interactive experience.

Under the watchful eye of UMSOD dental and dental hygiene students, scholars learned how to manage dental trauma, practiced suturing techniques, and applied “sealant” to simulated patients.

Alaina Zborai, a Class of 2023 dental hygiene student, supervised the sealant station in the simulation lab. She gave careful explanations about how sealants protect the teeth while showing students how to perform the procedure on a dental model before letting them give it a try. Even though students were using white nail polish and dental models, Zborai said they enjoyed the activity.

“It’s great for them to visualize and do it on their own and see how a sealant is placed. So, if they do end up getting a sealant, they’ll know how it is placed and how it works,” Zborai said.

She noted that Planet Smilez offers a peek into the world of dentistry that she wishes she had gotten as a middle school student. “I didn’t really know anything about the field of dentistry until I got older,” she said. “It’s nice to introduce kids to the field of dentistry and health care in general and get them interested in it.”

Imani Armour, a second-year dental student who was volunteering at Planet Smilez, agreed, adding that dental education makes for less-fearful patients. “I think it’s really cool that they were able to see the behind the scenes of what we actually do when we’re going in your mouth,” she said. “When we go in with a bur and you hear that rumbling sound — you know we’re actually repairing your tooth.”



**“Being part of this campus community and seeing themselves in these roles and what happens behind the scenes shows them that they are able — and they have what it takes.”**

— Katharina Furr, UMB CURE interim director

Katharina Furr, CURE interim director, said the experience scholars get at Planet Smilez is invaluable. “It’s all about exposure,” Furr said. “Being part of this campus community and seeing themselves in these roles and what happens behind the scenes shows them that they are able — and they have what it takes.”

On the last day of camp, UMB President Bruce E. Jarrell, MD, FACS, congratulated campers on a job well done and encouraged them to keep expanding their horizons.

“Continue to learn, to explore, to go after your dreams,” Jarrell said. “Students, faculty, and staff at the University of Maryland School of Dentistry, and all of UMB for that matter, remain committed to your success.” **MD**

Jamelle Smith, an eighth-grade student at Green Street Academy, practices placing sealants using white nail polish and a dental model.



# LASTING LEGACIES

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## UMSOD Announces Its Fifth Endowed Professorship

BY HOLLY SELBY

**T**he University of Maryland School of Dentistry (UMSOD) last summer announced the establishment of the Gordon M. Bell, DDS, and Holly G. Bell, CRNP, Endowed Professorship — the school’s fifth endowed professorship. The professorship is intended to support and advance faculty excellence.

Endowed professorships are the highest honor UMSOD can bestow upon a faculty member and pay a lasting tribute to both the appointed professor and the donors who established it.

“Endowed professorships make it possible for the School of Dentistry to recruit and retain the most talented educators, clinicians, and researchers. I am delighted to announce this newest endowed professorship and to express my deep appreciation to the Bells who have made a vital and lasting investment in the school,” said Mark A. Reynolds, DDS ’86, PhD, UMSOD dean and professor.

“The Bells’ generosity allows us to bestow recognition and distinction on an outstanding faculty member — and create space for excellence to bloom.”

During his tenure as dean, Reynolds has emphasized the critical importance of endowed professorships as key strategic investments in advancing scholarship, teaching, and research. In 2015, the school’s inaugural endowed professorship was established by alumni Frederick G. Smith, MS, DDS ’78, and Venice K. Paterakis, DDS ’81,

to provide resources to fund the work of a distinguished faculty member, enabling the named professor to pursue new areas of research and innovative teaching methods.

“I speak for all of us here at the School of Dentistry when I express my heartfelt gratitude to Dr. Smith and Dr. Paterakis for their generosity and leadership,” Reynolds said when he announced the news.

In late 2021, the school’s fourth endowed professorship was established by Karen J. Ivers, DDS ’88, in support of academic excellence and discovery-driven research. An appointment is planned for Fiscal Year 2024.

Recipients of endowed professorships are celebrated with an investiture ceremony at which they receive a medal in recognition of their accomplishments. One side is adorned with an etching of the School of Dentistry building and images of Horace H. Hayden and Chapin A. Harris, who in 1840 founded the school — the first dental college in the world. The other lists the name of the endowed professorship and the school’s purpose: Advancing Oral Health. Improving Lives.

Noting that although endowed professorships are a relatively new tradition at UMSOD, they already are steeped in great meaning and importance, Janet Wiley, assistant dean in the Office of Development and Alumni Relations, said, “By providing our preeminent faculty members with resources critical to their continued success, these endowed professorships will have enormous impact for years to come.” **MD**





In recognition of the critical role faculty mentors play in a superlative dental education, Gordon M. Bell, DDS '89, and Holly G. Bell, CRNP, established UMSOD's fifth endowed professorship.



Gordon M. Bell, top row, second from right, with fellow students

Photo credit: *The Mirror*, 1986





Gordon M. Bell and Holly G. Bell observe students in the simulation lab while touring UMSOD earlier this year.

# A RINGING ENDORSEMENT OF FACULTY EXCELLENCE

BY KELLY DEITZ



Adam Eisner, DDS, clinical instructor, Advanced Education in General Dentistry, Department of General Dentistry; Gordon Bell; Holly Bell; and Mark A. Reynolds, dean and professor

“The dental faculty were instrumental in teaching the latest technologies and techniques and demanding excellence every step of the way.”

That observation from Gordon Bell, DDS '89, explains his desire to invest in faculty excellence at the University of Maryland School of Dentistry (UMSOD) through the recently announced Gordon M. Bell, DDS, and Holly G. Bell, CRNP, Endowed Professorship, the fifth endowed professorship at UMSOD.

Citing the critical role faculty mentors played in Gordon Bell's clinical education, the Bells have ensured the same experience for future generations of oral health professionals.

“Endowed professorships are critical for recruiting and retaining preeminent faculty and for fostering excellence in education, research, clinical care, and service,” said Mark A. Reynolds, DDS '86, PhD, UMSOD dean and professor. “We are grateful to Gordon and Holly for this very generous and impactful investment in the future for UMSOD.”

Endowed professorships play a unique role in academic institutions, sustaining scholarship, benefiting patient care, and supporting discovery in a chosen area of expertise. They also bestow recognition and distinction upon an outstanding faculty member, creating and nurturing space to cultivate a legacy that will flourish through academic excellence, innovative scientific discoveries, and advances in clinical care.

Gordon and Holly Bell's commitment to contributing to a culture of excellence at UMSOD began with their first outing since the start of the COVID-19 pandemic, visiting the school and meeting Reynolds.



**“ENDOWED PROFESSORSHIPS ARE CRITICAL FOR RECRUITING AND RETAINING PREEMINENT FACULTY AND FOR FOSTERING EXCELLENCE IN EDUCATION, RESEARCH, CLINICAL CARE, AND SERVICE.”**

— **Mark A. Reynolds, DDS '86, PhD,**  
UMSOD dean and professor

Having previously included UMSOD in their estate plans, the Bells said their visit and tour of the school sparked an interest in shaping their gift into a permanent endowment that would advance faculty excellence. The endowment will be created out of their estate assets, a strategy that many find achievable to create a large enough endowment to permanently fund a faculty position.

### **CREATING A LASTING LEGACY**

The endowment creates a lasting dental legacy for Bell, who followed a winding route to UMSOD and his lifelong passion. “I did not take the traditional path to dentistry, but once enrolled, I knew I had found my true vocation,” said Bell, who grew up in Washington, D.C., and met Holly on a blind date while he was working as a mechanic.

With her support and encouragement, Bell enrolled at the University of Maryland, College Park and earned a degree in microbiology in 1985. He credits a volunteer position at a nursing home with sparking his interest in dentistry. He saw an enormous need for affordable and skilled dental care for the elderly and applied to nine dental schools before choosing UMSOD.

Bell was inducted into Omicron Kappa Upsilon, a national dental honor society, and served as president of his UMSOD class for three years before earning his Doctor of Dental Surgery degree in 1989. He is a passionate supporter of organized dentistry and has practiced as a general dentist for 32 years with multiple offices in York, Pa. **Md**

## **RECIPIENTS OF UMSOD ENDOWED PROFESSORSHIPS:**



**TAO LOWE, PHD,** professor in UMSOD's Department of Oral and Maxillofacial Surgery and the Fischell Department of Bioengineering in the A. James Clark School of Engineering at the University of Maryland, College Park, is the inaugural recipient of

the **Frederick G. Smith, MS, DDS, & Venice K. Paterakis, DDS, Endowed Professorship in Oral & Maxillofacial Surgery.**



**ROBERT K. ERNST, PHD,** professor and chair of UMSOD's Department of Microbial Pathogenesis, and adjunct professor at the University of Maryland School of Medicine and the Department of Veterinary Medicine at the University of

Maryland, College Park, is the inaugural recipient of the **Dr. Paul and Mrs. Jean Corcoran Endowed Professorship.**



**JOSE A. BOSIO, BDS, MS,** chief and postgraduate program director of the Division of Orthodontics and clinical associate professor, is the inaugural recipient of the **Alumni and Friends Professorship in Orthodontics.**

# Lasting Impressions

## Laurels



**Goot Alkhubaizi, MS, ABGD**, program director, Advanced Education in General Dentistry; **Howard Strassler, DMD**, professor, and **Mary Anne Melo, DDS, MSc, PhD**, chair, all from the Department of General Dentistry, co-authored “Errors in Light-Emitting Diodes Positioning When Curing Bulk Fill and Incremental Composites: Impact on Properties After Aging,” which was published in the *Journal of Restorative Dentistry & Endodontics*.

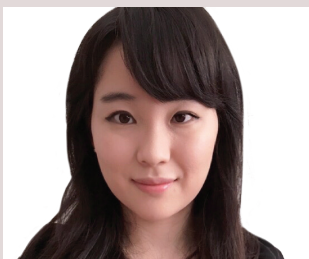


**Emily Chu, DDS, PhD**, assistant professor, Department of General Dentistry, co-authored “Orthodontic Tooth Movement Alters Cementocyte Ultrastructure and Cellular Cementum Proteome Signature,” which was published in *Bone*. Chu also co-authored “Between a Rock and a Hard Place: Regulation of Mineralization in the Periodontium,” which was published in *Genesis* on April 23.



**Gary D. Hack, DDS**, clinical associate professor, AOST, co-authored “Maturation and Growth of the Myodural Bridge Within the Posterior Atlanto-Axial Interspace in the Rat,” which was published in the *Journal of Morphology*.

Hack also co-authored “Identification of the Myodural Bridge in a Venomous Snake, the *Gloydius Shedaoensis*: What is the Functional Significance?” which was published in the *International Journal of Morphology* in May.



**Aleah Cho, DDS**, assistant general practice director, and **Nisha Ganesh, DDS, MEd**, vice chair, both from the Department of General Dentistry, co-authored “Dental Students’ Perception of a Blended Learning Approach to Clinic Orientation,” which was published in the *Journal of Dental Education*.



**Ina L. Griffin, DMD**, clinical assistant professor and director, Postgraduate Endodontics, Division of Endodontics, Department of Advanced Oral Sciences and Therapeutics (AOST), led nine residents in offering two oral research presentations, four research poster presentations, and three table clinic presentations at the American Association of Endodontists’ annual session in Phoenix in April.



**Frederico C. Martinho, DDS, MSc, PhD**, clinical associate professor and director, Predoctoral Endodontics, Division of Endodontics, AOST, received a Foundation for Endodontics grant of \$13,760 in support of his proposal for root-end preparation and root-end fill in minimally invasive ostectomy using a 3D dynamic navigation system.





**Mary Anne Melo, DDS, MSc, PhD**, chair, Department of General Dentistry; **Huakun Xu, MS, PhD, FADM**, professor and division chief, Biomaterials and Tissue Engineering; and **Michael Weir, PhD**, research assistant professor and lab manager, AOST, were among the co-authors of “Magnetic-Responsive Photosensitizer Nanoplatform for Optimized Inactivation of Dental Caries-Related Biofilms: Technology Development and Proof of Principle,” which was published in *ACS Nano*.

They also were among the co-authors of “Bifunctional Composites for Biofilms Modulation on Cervical Restorations,” which was published in the *Journal of Dental Research*.

Melo also received a two-year R03 grant from the National Institute of Dental and Craniofacial Research for “Synergistic Degradation of the Bonded Interface: A New Approach to Evaluate the Bond Strength of Dental Restoration.”



**Oksana Mishler, RDH, MS, DHSc**, clinical assistant professor, and **Se-Lim Oh, DMD, MS**, clinical associate professor, both from the Division of Periodontics, AOST, and **Thomas W. Oates, DMD, PhD**, professor and chair, AOST, co-authored “Senior Dental Students’ Perceptions of Evidence-Based Dentistry,” which was published in the *European Journal of Dental Education*.



**Marcela Romero-Reyes, DDS, PhD**, clinical associate professor, Department of Neural and Pain Sciences, and clinical director, Brotman Facial Pain Clinic, was recognized by the American Academy of Orofacial Pain (AAOP) for her dedication and meritorious service to AAOP as scientific program chair of its 46th Annual Scientific Meeting in Boston.



**Craig Schneider, DDS**, clinical assistant professor, Division of Endodontics, AOST, became president-elect of the College of Diplomates of the American Board of Endodontics.



**Patricia A. Tordik, DMD**, clinical professor and director, Division of Endodontics, AOST, was sworn in as president-elect of the American Association of Endodontists’ Foundation for Endodontics.



**Richard J. Traub, PhD**, professor and chair, Department of Neural and Pain Sciences, co-authored “Early and Late Transcriptional Changes in Blood, Neural, and Colon Tissues in Rat Models of Stress-Induced and Comorbid Pain Hypersensitivity Reveal Regulatory Roles in Neurological Disease,” which was published in *Frontiers in Pain Research* in May.



**Darien Weatherspoon, DDS, MPH**, clinical assistant professor, Department of Dental Public Health, and a colleague received a \$10,000 grant from the University of Maryland Center of Excellence in Regulatory Science and Innovation for “Characterization of Drug-Related Oral and Dental Adverse Reactions in the Literature and in Drug Labeling.”



Photo by Matthew D'Agostino / UMB

# FocalPoint

## Taking Aim: Mineralization Disorders

BY EMILY CHU,  
DDS, PHD

Our lab in the University of Maryland School of Dentistry's (UMSOD) Department of General Dentistry received a \$750,000 National Institutes of Health (NIH) R00 grant to study the roles of pyrophosphate regulators on cementogenesis.

We believe that it is a central issue for better understanding of processes affecting dental health. Proper pyrophosphate (PPI) regulation is critical in mineralization processes responsible for the development of bone, cartilage, and teeth: PPI impedes mineralization by directly inhibiting hydroxyapatite crystal growth.

A main source of PPI is ATP — the compound that provides energy to drive many processes in living cells. ATP is hydrolyzed by the enzymes ectonucleotide pyrophosphatase phosphodiesterases (ENPP), including ENPP1.

ENPP1 is expressed in bone along with progressive ankylosis protein (ANK), which transports intracellular PPI to extracellular spaces. While ANK and ENPP1 increase extracellular PPI, tissue non-specific alkaline phosphatase

(TNAP, encoded by ALPL) hydrolyzes PPI into inorganic phosphate (Pi). It thus decreases PPI in extracellular spaces. And loss of ANK, ENPP1, or TNAP has dramatic effects on mineralized tissue.

Abnormal PPI regulation (as exhibited by individuals with ENPP1, ANK, or ALPL mutations) can lead to excessive cementum formation (ENPP1, ANK) or deficient cementum formation leading to premature tooth exfoliation (ALPL), an unwelcomed effect of untreated periodontal disease. Periodontal disease is a global burden with significant psychosocial and financial consequences, and existing regenerative therapies are unpredictable and do not target cementum regeneration.

We believe that pyrophosphate regulators are potential targets for periodontal regulation. They may be keys to promoting periodontal health.

The R00 award is a continuation of a K99 award started at NIH. We addressed several gaps in knowledge by employing genetically edited mouse models where PPI metabolism was disrupted and pharmacologically modulating PPI in a PPI-deficient mouse model. We demonstrated that acellular cementum growth is inversely proportional to PPI levels, with reduced cementum in *Alpl* KO (increased PPI levels) mice and excess cementum in *Ank* KO mice (decreased PPI levels).

Simultaneous ablation of *Alpl* and *Ank* results in reestablishment of functional cementum in dKO mice. Dual deletion of *Ank* and *Enpp1* did not further increase cementogenesis. Pharmacologic manipulation of PPI through an ENPP1-Fc fusion protein altered cementum growth, supporting therapeutic interventions targeting PPI metabolism. These studies were continued in my independent research program beginning in 2021 when I was appointed as an assistant professor at UMSOD.

Additionally, in collaboration with NIH, our lab is investigating dentoalveolar phenotypes associated with mineralization disorders (often rare diseases), including generalized arterial calcification of infancy and human familial tumoral calcinosis. We are excited about including these clinical components in our studies as we aim toward the ultimate goal of developing therapies targeted toward mineralization disorders.

*Dr. Chu is an assistant professor in the Department of General Dentistry, Operative Division, at the University of Maryland School of Dentistry. MD*



# Alumni

## From the Alumni Association



Dear Alumni,

I would like to renew my welcome to our newest students as they complete the first semester of their dental or dental hygiene education at the University of Maryland School of Dentistry (UMSOD). I had the privilege of speaking with many first-year students in August during orientation and was impressed by the

range of backgrounds, hometowns, ethnicities, and interests they represent. The common thread, of course, was their enthusiasm and drive to immerse themselves in their classes and labs — on their ways to becoming the next generation of oral health professionals.

No doubt they will quickly become close friends as they learn next to and from each other over the next four years. Didactic knowledge and clinical skills are essential, as they are the basic principles for treating the oral cavity and learning new techniques and equipment. Yet another important part of their training is understanding patients' different personalities, anxieties, expectations, and cultures. Diversity throughout our faculty and student body will help our students learn many of these interpersonal skills, aiding them as they become excellent clinicians.

In September, I attended the Maryland State Dental Association's Chesapeake Dental UMSOD alumni reception. There was a great crowd, and it was good to see so many of my fellow alumni. Mark A. Reynolds, DDS '86, PhD, UMSOD dean and professor; our alumni relations staff; and I enjoyed spending time with

the many alumni who are as proud of our school as we are. In October, the group traveled to Houston for our alumni reception at the American Dental Association's SmileCon meeting. Once again, we were happy to see so many familiar faces.

Looking ahead, please save the date for our All-Alumni Reunion Weekend: June 2-3, 2023! We will celebrate reunions for classes ending in 3's and 8's. We need volunteer class agents to help plan and coordinate class dinners for these reunion classes — and we welcome your help. As we celebrate the 50th reunion of the Class of 1973, we also invite the classes of 1970, 1971, and 1972 to join the festivities because the pandemic prevented some of their celebrations from being held.

Remember that your Alumni Association Board members are always available to answer questions or listen to comments. We are here to help you connect with fellow alumni and strengthen your relationship with UMSOD. We also help sponsor many programs that benefit our alumni and current students.

If you would like to volunteer as a class agent for the All-Alumni Reunion or learn more about the Alumni Association Board of Directors, please visit [www.dental.umaryland.edu/alumni/alumni-association](http://www.dental.umaryland.edu/alumni/alumni-association) or contact us by email at [Dentalalumni@umaryland.edu](mailto:Dentalalumni@umaryland.edu).

In closing, I hope that all our faculty, staff, students, and alumni have a happy, healthy, and safe holiday season with their families and friends.

Best regards,

**Marc Nugger, DDS '79**

*President | Alumni Association Board of Directors*

**For more information** about the Alumni Association or events, please contact Brandie Metcalf, assistant director of alumni relations, at 410-706-7418 or [bmetcalf@umaryland.edu](mailto:bmetcalf@umaryland.edu).

If you have news to share, please send it to [hselby@umaryland.edu](mailto:hselby@umaryland.edu).





**1.** Ali Behnia, DDS '98, and Robert A. Ord, DDS, MD, MBA, FRCS, FACS



**2. FROM LEFT:** Joanne Block Rief, DDS '86; Paul Miller, DDS '74; and Jessica Emery, DMD

**3. FROM LEFT:** Marc G. Nuger, DDS '79, president of UMSOD's Alumni Association Board of Directors; Nouraldein Elshamma, third-year-dental student; Mark A. Reynolds, DDS '86, MA, dean and professor; and George R. Shepley, DDS, who was installed in October as the 159th president of the American Dental Association.

**4. FROM LEFT:** Barry Cohan, Paul Miller, Steve Friedman, Bill Leboe, and Larry Wilder, all members of the DDS Class of 1974



Photos by Joshua Hiscock

# UMSOD Alumni

## Gather to Greet Longtime Friends and Meet New Ones

About 70 University of Maryland School of Dentistry (UMSOD) alumni and guests came together for a reception Sept. 9 at the Maryland Live! Hotel & Casino's Back Stage Bar, where they connected with longtime friends and welcomed recent graduates to the UMSOD alumni family.

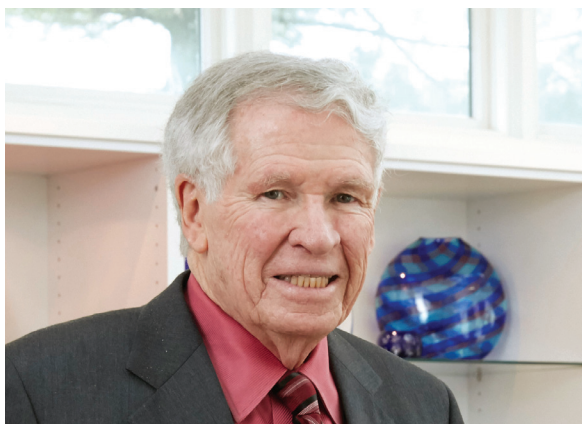
The UMSOD reception was held during the Maryland State Dental Association's (MSDA) Chesapeake Dental Conference, which included exhibits, meetings,

continuing education courses, and more. Guests from throughout Maryland and beyond included Alexandra Fitzgerald, DDS '18, who later in the conference was named MSDA president-elect, and Nouraldein Elshamma, a UMSOD third-year dental student who was awarded an MSDA scholarship. **MD**

— HOLLY SELBY



## In Memoriam



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**Among numerous other gifts, the couple supported the Edgar Sweren, DDS '54 and Betty Sweren Prize for Orthodontics and helped create the Edgar Sweren, DDS '54 and Betty Sweren Sustaining Fund for Orthodontics.**

### Edgar Sweren, DDS '54

Edgar Sweren, clinical assistant professor in the Department of Orthodontics and Pediatric Dentistry at the University of Maryland School of Dentistry (UMSOD), died Aug. 4. He was 93.

A distinguished and generous alumnus of the school, Sweren and his wife, Betty, have long been stalwart supporters of the Division of Orthodontics and UMSOD at large.

After graduating in 1954 from UMSOD — then known as the Baltimore College of Dental Surgery — Sweren served for two years as a captain in the U.S. Air Force Dental Corps before enrolling at the Columbia University College of Dental Medicine, from which he received a certificate in orthodontics in 1958. He then practiced in Baltimore for more than six decades and served as a part-time faculty member at UMSOD since 1977.

Among numerous other gifts, the couple supported the Edgar Sweren, DDS '54 and Betty Sweren Prize for Orthodontics and helped create the Edgar Sweren,

DDS '54 and Betty Sweren Sustaining Fund for Orthodontics. In 2015, in recognition of the couple's repeated generosity, the Division of Orthodontics named UMSOD's Orthodontic Clinic in their honor.

Notably, the Swerens were instrumental in helping create UMSOD's Alumni and Friends Professorship in Orthodontics, currently held by Jose A. Bosio, BDS, MS, by making a leadership gift in 2006. Joined by Karl Pick, DDS '66, MSD, who also made a large gift at the time, the Swerens' initial commitment to the professorship and active campaigning among alumni allowed the school to recruit and retain a leading educator and clinician.

Sweren is survived by his wife Betty Sweren (née Applestein); children Shelley Sweren Wasserman, Bennett (Kathryn Zent) Sweren, and Maralee Sweren (Steve) Clark; siblings Herb Sweren and Irene Sweren (Michael) Johnson; and many grandchildren and great-grandchildren. **MJ**

— JOEL KABOT

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***We are saddened by the loss of the following alumni, faculty, and friends:***

Albert A. Bange, DDS '54  
Neil W. Brayton, DDS '70  
Arthur L. Culliner, DDS '70

Gilbert H. Cullen, DDS '50  
William J. Curtis, DDS '55  
Thomas J. Egan, DDS '69  
John N. Faniola, DDS '67  
Michael E. Fleming, DDS '56  
John C. Gigliotti, DDS '64  
Richard M. Holmes, DDS '73

Alan D. Lee, DDS '68  
Kenneth R. MacDonald, DDS '81  
Raymond D. Menton Jr., DDS '58  
Michael C. Meyers, DDS '54  
John G. Mueller, DDS '57, MD  
Thomas W. Snee, DDS '70  
Edgar Sweren, DDS '54

\*The school learned of the passing of these alumni, faculty, and friends between April 26 and Sept. 16, 2022.



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At the **UNIVERSITY OF MARYLAND SCHOOL OF DENTISTRY**, the world's first dental college, we are committed to an inclusive teaching and learning environment where differences in our backgrounds, races, creeds, sexual orientations, personalities, goals, and aspirations are what make us excellent. Our mission of *Advancing Oral Health. Improving Lives.* is predicated upon preparing empowered, culturally competent oral health practitioners, trained in state-of-the-art environments, by faculty who serve as teachers and mentors.

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