Much to Celebrate

AS WE NEAR THE END of this academic year, Penn Dental Medicine has much to celebrate. Firstly, the members of the Class of 2017 can take great pride in their achievements. I extend my congratulations on behalf of the entire Penn Dental Medicine community to this accomplished group of students as they graduate and move on to the next stage of their dental careers — they join a distinguished group of alumni.

This academic year has also brought the successful completion of the Evans Building Centennial Renaissance project, which has transformed this historic structure throughout. As we featured in the Fall 2016 issue of the magazine, key spaces on each level of the building — the new simulation clinic on the Lower Concourse, the Edward & Shirley Shils Clinic on the first floor, and the reimagined Leon Levy Library on the second and third floors — opened at the start of this academic year and are now extensively in use. At the upcoming Alumni Weekend 2017, May 12-13, we will celebrate the completion of all the new spaces (see story page 2). I thank the many alumni, friends, and corporate partners whose support has made this project possible and our project leadership team for their painstaking work. I insist that you visit the School soon to experience our world class facilities: you will be enthralled.

While deeply saddened by the loss of one of our most generous and accomplished graduates with the passing of Dr. Robert Schattner (D’48) in January, we celebrate his commitment to the future of Penn Dental Medicine (see story page 5). Thanks to his generosity, work will soon be underway on the renovation of the Main Clinic, to become the Robert I. Schattner Clinic, and following that, the Pavilion to extend the Schattner Center will be built, a new two-story addition that will physically, naturally, and symbolically link the three buildings of our preeminent school (see story page 4).

In the area of academics, in addition to adding the final touches to our new curriculum, we have added to the depth of our advanced specialty dental education programs with the launch of a new prosthodontics residency program, and we will welcome the first class of residents this coming July (see story page 10). Additionally, through faculty engagement across Penn, we are continuing to strengthen our interprofessional research, education, and clinical care (see story page 18), and through student engagement, new courses of interest are adding to the variety of Selective course offerings (see story page 28).

Finally, in the realm of research, our standing faculty published 160 articles of high impact in 2016 (see highlights page 14), collectively continuing to move dental medicine and oral health sciences forward. Indeed, this academic year has brought many achievements to celebrate — I thank our faculty, students, staff, and alumni for their great work and ongoing dedication to the School and its mission.

Denis F. Kinane, BDS, PhD
Morton Amsterdam Dean
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**ON THE COVER:** The new prosthodontics program will have full digital workflow integration and residents will gain experience with a dental lab specializing in computer-aided design/computer-aided manufacturing (CAD/CAM) through the Penn Dental Medicine CAD/CAM Ceramic Center.

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Penn Dental Medicine will officially celebrate the completion of the Evans Building Centennial Renaissance project during Alumni Weekend 2017. Dean Denis Kinane and Penn President Amy Gutmann will join alumni and project supporters in celebrating the Building’s transformation at the Alumni Weekend reception, May 12, 5–7 pm.

Penn Dental Medicine launched the Evans Building Centennial Renaissance project in 2015 as the iconic Thomas Evans Building marked its 100th Anniversary. The two-year, $37-million project has impacted every floor of the Evans Building, changing and updating the use and flow of most areas, while fundamentally preserving beloved architectural details (only the specialty clinics, renovated over the past decade, went untouched, along with the Main Clinic, which will undergo renovation next, see story page 4).

Through the Evans Building Centennial Renaissance project, the Lower Concourse of the building has been completely transformed into a student-centered area that features a state-of-the-art simulation clinic, seminar rooms, small group study rooms, the William W.M. Cheung Auditorium, a student lounge and locker room, and the Office of Student Life and Academic Affairs.

Changes on the first floor include the Edward & Shirley Shils Clinic, a new 54-chair pre-doctoral teaching clinic in the southwest section of the first floor and an executive administration suite in the southeast portion of that floor.

The reimagined Leon Levy Library includes the Main Reading Room on the second floor, occupying the space that had been the building’s original library, and additional reading and study rooms on the third floor, which also houses new faculty and administrative offices.

Visit www.dental.upenn.edu/evans to view photos of the new spaces.

The purpose of this series is to build on the School’s history of innovation and look to the future of dental education, research, and practice. Speakers explored topics that ranged from the rise of dental service organizations and the need and opportunities for interprofessional practice, to innovations in dental materials and technologies.

As future sessions are held and outcomes developed, findings will be shared with the alumni community at large through the Penn Dental Medicine website and publications.
Orthodontics Clinic Expansion, Updates Underway

Last year as Penn Dental Medicine’s Department of Orthodontics celebrated its 100th Anniversary, the Penn Ortho Centennial Campaign was launched with a $1 million goal to raise funds for complementary initiatives — resident fellowships and the expansion of the Brainerd F. Swain Orthodontic Clinic. With just $30,000 still needed to reach that goal, work began in March on the expansion and updates to the clinic.

Located in the southwest section of the second floor of the Evans Building, the Brainerd F. Swain Orthodontic Clinic opened in 2006 and was a milestone in taking the orthodontics program to a new level; now the Department of Orthodontics is enhancing those facilities once again. While the overall square footage of the clinic is not increasing, a reconfiguration of the space is allowing for the addition of four new treatment operatories, bringing the total to 23.

“As a growing number of our residents are pursuing master’s and DScD programs along with their ortho certificates there is a growing need for treatment chairs for these students, who are here beyond the now 26-month certificate program,” says Dr. Chun-Hsi Chung (D’86, GD’92), the Chauncey M.F. Egel Endowed Chair of Orthodontics. “These four additional operatories will accommodate those students in both the master’s and DScD tracks, which are enabling us to build a pipeline for future faculty.”

Other changes to the clinic will include remodeling of the waiting room; improved digital capabilities, including the introduction of intraoral scanners for creating digital models; the addition of a new consultation room, a new office space, and a sprinkler system; and a minor facelift to the storage area. The changes are scheduled to be completed by mid to late June.

“Alumni have been tremendous in their support of this campaign,” adds Dr. Chung. “In recognizing what their Penn Dental degrees have given them, they’ve given back. I thank them for their loyalty to the School and the specialty.”

To support the clinic improvements and help reach the final goal, visit www.dental.upenn.edu/give and select “Orthodontic Clinic Renovation Fund” or to support the resident fellowships select “Dr. Robert Vanarsdall Fellowship Fund” (see related tribute, page 39). For more information, contact Maren Gaughan, gaughan@upenn.edu, 215–898–8952.

ABOVE: The remodeling of the waiting area is among the updates underway in the Brainerd F. Swain Orthodontic Clinic. Rendering by Buell Kratzer Powell.
Legacy of Dr. Robert Schattner, D’48, Continues to Move School Forward
Plans Set for Main Clinic Renovation, Schattner Pavilion Addition

With the passing of Penn Dental Medicine alumnus and Overseer Dr. Robert I. Schattner (D’48) on January 29 at the age of 91, the Penn Dental Medicine community lost one of its most accomplished and devoted graduates; yet, thanks to his generosity, his legacy is continuing to move Penn Dental Medicine forward. Plans are set for the next major facilities improvements at the School — the renovation of the Main Clinic and a two-story addition to the Robert Schattner Center — both to be made possible through support from Dr. Schattner. Both the clinic renovation and work on the Schattner Pavilion are scheduled to begin in mid-May 2017.

In 2015, Dr. Schattner contributed $10 million — at the time, the largest gift from a living donor in Penn Dental Medicine’s history — toward these two building projects. And just this past fall when visiting the School to review the projects’ plans, he made an additional $5 million gift toward costs for making these new spaces a reality. This $15 million combined with his other support over the years, including the $5.5 million gift made in 1997 toward the construction of the School’s Robert Schattner Center and surrounding Fonseca Gardens, brought Dr. Schattner’s lifetime contributions to Penn Dental Medicine to more than $20.5 million.

“It is impossible to overstate the transformative influence of Dr. Schattner on Penn Dental Medicine, and he was similarly generous in his advice and encouragement to me personally,” says Dean Denis Kinane. “His vision of the importance of these projects for the future of the School was an inspiration and his commitment to dental education will be long remembered by future generations.”

MAIN CLINIC RENOVATION
The School’s 11,520-square-foot Main Clinic, which has been the hub of DMD clinical instruction and patient care since the Thomas Evans Building’s construction in 1915, will undergo a complete renovation for an improved student and patient experience.

To be named the Robert I. Schattner Clinic, it will feature new state-of-the-art equipment, more than 70 individual operatories designed to maximize privacy and comfort, new flooring and lighting, enhanced radiographic capabilities, and a redesign to optimize operational flow, including improved instrument distribution and collection. Adding a dramatic element to the space, are plans to reveal the original, historic windows that line the north side of the clinic, bathing the space in natural light.

The Main Clinic renovation will be completed by the end of December 2017 and will complete the transformation of the historic Thomas Evans Building, which recently has undergone renovations throughout through the Evans Building Centennial Renaissance project (see story, page 2).

SCHATTNER PAVILION
The second project to be made possible through Dr. Schattner’s support — the Schattner Pavilion — will build upon the unified Penn Dental Medicine campus achieved with the Robert Schattner Center’s construction. When the Schattner Center opened in 2002, becoming the School’s main entrance, it linked the Evans Building and Leon Levy Center for Oral Health Research. The Schattner Pavilion...
will enhance this connection, further joining all three buildings that make up Penn Dental Medicine and facilitating interaction among faculty and staff within them.

The 2,100-square-foot Pavilion will extend beyond the existing atrium of the Schattner Center and enclose a portion of the courtyard area behind it, creating a dynamic new space on two levels for public gatherings and interaction. This space is intended to become a central meeting and reception area for faculty, staff, patients, and visitors to the Penn Dental Medicine campus. The second-floor patient waiting area will improve wayfinding for patients being treated in the Schattner Clinic, and the second-floor connection to the Leon Levy Center will provide a straight line of access from the Evans Building through the Schattner Center to Levy. The Pavilion will open into a faculty collaboration space within Levy.

The Schattner Pavilion has a projected completion date of mid-June 2018.

REMEMBERING
ROBERT I. SCHATTNER, D’48
1926–2017

Robert I. Schattner, a 1948 graduate of Penn Dental Medicine and member of the School’s Board of Overseers since 2002, was a man of many talents. A dentist, inventor, and entrepreneurial businessman whose long career led to 70 patents and trademarks and whose hard work, wisdom, and success in business and investing allowed him to become a tremendous philanthropist as well. Over his lifetime, he contributed more than $20.5 million to Penn Dental Medicine and The Washington Post columnist and business reporter Thomas Heath noted in his March 10, 2017 article that when Dr. Schattner’s will is probated, the nine-figure deposit to the Robert I. Schattner Foundation, should make the charity one of Washington, D.C.’s richest.

Dr. Schattner — who played the drums as a teen, performing in a band with his brother at a resort in the Catskills — grew up in the Bronx. He earned a degree in chemistry at the City University of New York before coming to Penn Dental Medicine. After graduation, he served for one and a half years in the U.S. Public Health Service, then opened his own practice in Bayside, N.Y. A serendipitous conversation at a cocktail party in 1952 would change the trajectory of his career, leading to the world of business and product development as Dr. Schattner went on to develop Chloraseptic, the popular sore-throat anesthetic. After 10 years in private practice, he sold his practice to devote himself full time to his company, moving it to the Washington, D.C. area, and eventually selling Chloraseptic to Norwich Pharmaceuticals.

Dr. Schattner’s research and development didn’t stop with the sale of Chloraseptic; he started a second venture, developing the hospital disinfectant Sporicidin and a host of other antimicrobial products before selling Sporicidin Intl. in 2008 and retiring from a long career of innovation. Among a variety of other interests, Dr. Schattner bid a number of times on ownership of professional sport teams and served as a Director on various banks’ boards.

The inscription beside Dr. Schattner’s photo in his Class of 1948 Penn Dental Medicine yearbook read: “A prodigious operator of no low degree, constantly on the job achieving his purpose and goal in his own quiet fashion. Bob’s achievements in the field of dentistry are equaled only by his adaptability in music — the Gene Krupa of our class. Bob will undoubtedly go a long way in his chosen profession.” Indeed, he did.
Collaborating to Discover How to Reduce Oral Health Disparities
Four Master of Public Health Students Team with Alumna on Research Serving the LGBTQ Community

During a lecture on social justice and health equity for the public health course last year at Penn Dental Medicine, alumna Dr. Kari Hexem (D’15, MPH) was excited to share her passion for her work at Philadelphia FIGHT Community Health Center, a comprehensive health services organization that provides primary care, dental care, consumer education, research, and advocacy for people living with and at high risk of HIV/AIDS. She was equally pleased that her words sparked a collaborative research effort among four predoctoral students in the audience.

Those students — Pooja Garg (D’18), Rebecca Ivins (D’18), Kelly Buckshire (D’18), and Maya Thompson (D’18) — are pursuing dual degrees at Penn Dental Medicine: a Master of Public Health (MPH) along with their DMD. As part of their MPH coursework, the four devised a qualitative research study to better understand how to reduce oral health disparities in sexual and gender minority individuals.

“One of my responsibilities at Penn Dental is to help public health dual-degree students come up with research projects,” says Dr. Hexem, who is a Clinical Assistant Professor of Preventive & Restorative Sciences in the Division of Community Oral Health at Penn Dental Medicine. “As the director of Dental Services at Philadelphia FIGHT, it was exciting to see their interests meld with my own.”

UNDERSTANDING PATIENT NEED
Under the collaborative mentorship of Dr. Hexem and Dr. Rosemary Frasso, PhD, MSc, CPH, at Penn’s Center of Public Health Initiatives, the student researchers collected data about the lived experiences of sexual and gender minorities seeking care at Philadelphia FIGHT Dental Services, which provides comprehensive dental care to Philadelphia FIGHT Health Center patients and other community members.

“We all have a deep desire to truly understand patient need and to apply that understanding in our practice,” says Garg. “Being able to talk to Philadelphia FIGHT patients allowed us all to better understand the gap in dental care that exists for sexual and gender minorities.”

That health disparity is an important one to tackle. Because of a lack of access to care as well as other social determinants of health, many people who identify as LGBTQ have difficulty accessing the dental exams and treatment they require. This gap in care is especially concerning because oral health is indicative of overall health and poor oral health can impact other medical problems, including heart disease.

Now that in-depth interviews with Philadelphia FIGHT dental patients are complete, the students are examining the data and intend to share that insight to help FIGHT provide enhanced care to its patients and add to the knowledge about conducting culturally sensitive research. One early indicator already has
significant promise for enhancing oral health across demographics.

“We noticed a distinct timeline in almost all interviewees’ stories,” explains Ivins. “Those we interviewed recounted early exposure to dental care as kids, then a discontinuation of that care in early adulthood and not seeking care again until they were in pain. Identifying this temporal pattern has allowed us to see the value in developing oral health interventions for emerging adults.”

They also learned the importance of compassionate, culturally sensitive care. “I was impressed with how confident the Philadelphia FIGHT dental patients were in talking about their conditions and in understanding the importance of taking responsibility for their health,” says Thompson. “That was definitely a result of a solid relationship between the patients and the FIGHT care providers.”

SEEING THE BENEFITS OF INTERPROFESSIONAL HEALTH CARE

The student researchers were also able to observe the benefits of how locating dental services in a primary health care setting can improve access to dental care, particularly for vulnerable populations. Philadelphia FIGHT has been offering dental services since 2015, when Dr. Hexem joined the agency as dental director. Dental care is provided in tandem with other services, including behavioral health, HIV primary medical care, HIV testing, and counseling.

“We were able to see firsthand that dentistry does not exist in a vacuum,” says Garg. “If you are going to be a health care provider, you must appreciate the wider scope of patient need.”

This qualitative research project has given the students the opportunity to apply research to solve a problem in a real-world setting. Once the research is complete, Dr. Hexem believes it will have an impact on advancing oral health initiatives for the LGBTQ community.

“The research is very evidence-based information available regarding what we as dental professionals can do to be more welcoming to the LGBTQ community or even how to conduct culturally sensitive research in the LGBTQ community,” she says. “These students are paving the way for future researchers to develop targeted interventions that could improve the oral health of LGBTQ members in our society.”

Department of Endodontics Building Research, Innovation Funds

Penn Dental Medicine’s Department of Endodontics is undertaking two initiatives to build on its rich history of leadership in the field of endodontics — The Jutta Dorscher-Kim Research Fund and the Penn Endo Clinic Innovation Fund.

“Our mission at Penn Dental Medicine is to ensure that all our students and faculty are leaders in the field of endodontics. Now, we are bringing the same commitment to building support that is needed to build academic and professional engagement,” says Dr. Bekir Karabucak (GD’97, D’02), Chair of the Department of Endodontics. “Ivins and Thompson have paved the way for us to see the value in developing oral health interventions for emerging adults.”

At a special reception, held April 27, 2017 at the Association of Endodontists (AAE) annual meeting in New Orleans, hundreds of Penn Dental Medicine endodontics alumni and friends came together to celebrate the accomplishments of the long line of distinguished alumni and faculty and to highlight the goals of these funding initiatives.

In honor of Mrs. Kim’s lasting contribution to the Department, The Jutta Dorscher-Kim Research Fund has been established to support resident and faculty research and professional engagement, with the long-term goal of also creating a fellowship for a master’s degree candidate. Mrs. Kim was an integral part of the Department of Endodontics for many years. A skilled editor, she helped faculty and residents compose research abstracts and manuscripts for scientific journals and AAE meetings and was instrumental in the Department’s success in book and scientific paper publications. She also organized the Department’s international program, which continues to bring practitioners from around the world to the School each year for training in advanced endodontic techniques and technologies.

The Penn Endo Clinic Innovation Fund will raise resources for equipment, technology, and training, ensuring that the School’s state-of-the-art Syngcuk Kim Endodontic Clinic remains outfitted with the most advanced surgical microscopes and related technologies and continues to support and advance the Department’s leadership in the integration of the operating microscope into endodontic education and practice.

For more information on these funds, contact Maren Gaughan, Associate Dean for Leadership Giving, gaughan@upenn.edu, 215-898-8952.
AADR Travel Awards Take Student Research to International Stage

Through the School’s AADR Travel Awards, Penn Dental Medicine students and junior researchers took their research to the international stage at the IADR/AADR/CADR General Session & Exhibition, March 22–25, 2017 in San Francisco. This was the third year that the Penn Dental Medicine AADR Travel Awards supported student participation in this annual research event.

The AADR Travel Award program was launched by Penn Dental Medicine in 2014 to support and advance student/junior investigator research, providing funds toward travel to the annual AADR meeting where awardees have the opportunity to make poster presentations of their work, and in some cases, oral presentations as well. The awardees were selected in an open competition during the annual Penn Dental Research Day last year.

“Participating in IADR/AADR is a great opportunity to share ideas and network with other colleagues from different academic institutions and interact with researchers at all levels,” says Dr. Hyun (Michel) Koo, Chair, AADR Travel Award Committee and Penn Dental Research Day. “It is an important experience for students’ academic growth, while also spotlighting the depth of the School’s research activities.” The AADR Travel Awards are funded through the School’s Research Incentive Fund (RFI) Committee as well as through support from Dentsply Sirona and Johnson & Johnson.

Those AADR Travel Award recipients and the projects they presented at this year’s IADR/AADR/CADR Meeting in March included the following predoctoral students:

- Chungyu (Gaoy) Chang (D’18): Investigation of Del-1 as a Risk Assessment Biomarker for Periodontitis [poster presentation and competed in the Dentsply Sirona Restorative Competition]
- Amirtha Hariharan (D’18): Affordable Topical Delivery of Biopharmaceuticals to Disrupt/Prevent Oral Biofilm [oral presentation]
- Michael Hayes (D’18): Targeted Noninvasive Delivery of Protein Drugs to Human Periodontal Cells [poster presentation]
- Hassan Khan (D’18): LC3 During Autophagy through P. gingivalis in OKF6 TERT-1 Cells [oral presentation]
- Emily Kim (D’18): Clinician Perspectives Regarding Internet-Based Information on Burning Mouth Syndrome [poster presentation]
- Yvonne Mack (D’18): Effect of Polishing on Bacterial Adherence to Implant Abutment Materials [poster presentation]
- Sanghyun (Scott) Park (D’18): Chondrogenic Differentiation of Stem Cells on Titanium [poster presentation]
- Sheldon Rozman (D’17): Diagnosis of Atlantoaxial Subluxation Using Cranio-cervical Cephalometric Indices and CBCT [poster presentation]
- Victor Sun (D’18): Exopolysaccharides Matrix Degradation Enhances Anti-microbial Peptide Efficacy Against Biofilms [poster presentation]

Those postdoctoral students and junior researchers who were AADR Travel Award recipients and presented at the meeting included:

- Jessica H. Yi (D’18): Role of Phosphatidylinositol 3-kinase (PI3K) Signaling cascade in Oral Squamous Cell Carcinoma [oral presentation]
- Ching-ching Lee (D’17): FOXO1 Deletion Reverses Oral Cancer via IL17A [oral presentation]
- Dr. translipidation of Del-1 as a Risk Assessment Biomarker for Periodontitis [oral presentation]
- Dr. Henry Daniell, Dept. of Biochemistry and Dr. Hyun (Michel) Koo, Dept. of Orthodontics & Divs. of Pediatric Dentistry and Community Oral Health [poster presentation]
- Dr. Kathleen Boesze-Battaglia, Dept. of Biochemistry [oral presentation]
- Dr. Thomas Sollecito, Dept. of Oral Medicine [oral presentation]
- Dr. Fusun Ozer, Dept. of Preventive & Restorative Sciences [oral presentation]
- Dr. Dana Graves, Dept. of Preventive & Restorative Sciences [oral presentation]
- Dr. George Hajishengallis, Dept. of Periodontics [oral presentation]
- Dr. Sunday Akintoye, Dept. of Oral Medicine [oral presentation]
- Dr. Francis Mante, Dept. of Preventive & Restorative Sciences [oral presentation]
- Dr. Dana Graves, Dept. of Periodontics [oral presentation]
- Dr. Bruce Shenker, Dept. of Pathology [oral presentation]
- Dr. Henry Daniell, Dept. of Biochemistry [oral presentation]
- Dr. Sungtae Shi, Dept. of Anatomy & Cell Biology [oral presentation]

The 2017 AADR Travel Award grants will be presented at Penn Dental Medicine’s Research Day 2017 on May 11; those recipients will attend the 2018 AADR/CADR Annual Meeting in Fort Lauderdale.
Colgate Pediatric Dentistry DScD Fellowship

A new resource to support Penn Dental Medicine postdoctoral students pursuing advanced training in research has been established through the creation of the Colgate-Palmolive Pediatric Dentistry DScD Fellowship. The Colgate-Palmolive Company is providing multi-year support to create this new fellowship, which will provide financial support for a student pursuing a Doctor of Science in Dentistry (DScD) degree or engaged in postdoctoral research studies through the School’s Division of Pediatric Dentistry.

Dr. Yuan Liu, who will begin the DScD program in July, has been selected as the first recipient of the Fellowship. Her research will target the identification of risk biomarkers for early childhood caries and the development of new anti-plaque/anti-caries approaches using novel, Penn-developed technologies.

Dentsply Sirona Gift to Support Clinical Instruction

Dentsply Sirona, one of the world’s largest manufacturers of professional dental products and technologies, has established a four-year agreement with Penn Dental Medicine that will provide equipment for student instruction and support the clinical curriculum.

Over the next four academic years, Dentsply Sirona will contribute curing lights and instruction in restorative materials and techniques for incoming Penn Dental Medicine students.

“Teaching our students with the most up-to-date scientifically proven materials and equipment to provide excellent clinical care is our primary responsibility. Therefore, partnering with industry leaders to train the next generation of dentists and conduct meaningful and clinically relevant research has become increasingly important for any academic institution,” says Dr. Markus Blatz, Professor and Chair of Preventive & Restorative Sciences. “We are incredibly excited about the support from Dentsply Sirona. In this age of minimally invasive and adhesive dentistry, curing lights play a very critical role in the clinical success of bonded restorations, making this gift even more impactful. It comes at an opportune time as we are updating and streamlining our clinical protocols and educational materials in respect to bonded restorations.”

Dentsply Sirona’s gift of the curing lights is in support of Penn Dental Medicine’s Evans Building Centennial Renaissance project (see story, page 2), through which the School’s historic Evans Building has undergone a complete renovation, including the addition of the Edward & Shirley Shils Clinic, a new general restorative clinic.

Penn Dental Medicine’s Morton Amsterdam Dean Denis Kinane notes that this gift aligns with one of the key overarching goals of the Centennial Renaissance project to create a state-of-the-art environment for clinical instruction and patient care. “It is vital that we continue to be at the leading edge of innovation within the dental field,” he says, “both for the benefit of our students and our patients.”
IN FEBRUARY, Penn Dental Medicine was awarded accreditation to launch a new advanced specialty program in prosthodontics and will welcome its first class of residents in July. This addition not only builds on the depth of the School’s educational offerings (now bringing the total number of graduate specialty programs to nine), it will also enhance clinical services available to the public and research opportunities as well. And, with the latest digital technologies an integral part of instruction and patient care, it promises to be one of the most leading-edge programs of its kind.

The 36-month residency will accept four students per class and leads to a certificate in prosthodontics combined with a Master of Science in Oral Biology degree; graduates will meet the formal training requirements for the American Board of Prosthodontics certification exam. This is the first prosthodontics program in the nation to begin after the revised accreditation standards were instituted that recognize digital dentistry and surgical implant placement as integral parts of the specialty of prosthodontics. As such, in building the program from scratch, it has been developed around these standards to be at the forefront of the techniques and technologies advancing the field.

“Right now is an exciting time for prosthodontics. It has evolved like no other specialty in the last decade with the rapid advancement of digital dental technologies through CAD/CAM [computer-aided design/computer-aided manufacturing],” notes Dr. Markus Blatz, Professor and Chair of the Department of Preventive & Restorative Sciences, who advocated for an accredited prosthodontics program and how it could add to the educational, patient care, and research missions of the School. “Our goal has been to design a program to be the embodiment of the future of prosthodontics.”

“This is great addition to our graduate education programs,” says Morton Amsterdam Dean Denis Kinane. “I believe it promises to prepare our prosthodontic residents not only to exceed the standards of today, but to lead the changes of tomorrow.”
A VISION TO THE FUTURE
To help bring that vision to life, Dr. Blatz recruited Dr. Evanthia Anadioti, Clinical Assistant Professor of Restorative Dentistry, in 2015 to help develop and now serve as Founding Director of this new residency program. Prior to coming to Penn Dental Medicine, Dr. Anadioti was Clinical Assistant Professor at Boston University Henry M. Goldman School of Dental Medicine. She is a diplomate of the American Board of Prosthodontics, having earned both her certificate in prosthodontics and MS in Oral Sciences at the University of Iowa before completing a fellowship in surgical implant dentistry at the University of North Carolina. A native of Greece, she holds a DDS from National and Kapodistrian University of Athens.

“It feels like Penn was waiting for the right time to start an advanced prosthodontics program,” says Dr. Anadioti. “And with the tremendous technology available, the best time for prosthodontics is now. In creating the program, we’ve designed a curriculum to develop the next generation of leaders in our specialty.”

“Now that all the traditional dental specialties will be represented through our educational programs, we can truly be full service in terms of clinical care and cater to all the different patient needs.”

— DR. MARKUS BLATZ

While maintaining a strong foundation in classic prosthodontics, a hallmark of the curriculum will be the incorporation of the latest applications of digital dentistry. “There will be full digital workflow integration,” explains Dr. Anadioti. “From the start of a case to the final restoration, our residents will be planning and executing cases digitally.” That ranges, she notes, from using digital radiographs, CBCTs, and intraoral scans for diagnosis, case planning, and digital smile design, to the 3D printing of surgical guides for implant placement and the chairside or laboratory milling of restorations.

Uniquely positioning the program to provide residents experience with a dental technology laboratory specializing in CAD/CAM is the School’s CAD/CAM and Ceramic Center. Established in 2009 within the Department of Preventive & Restorative Sciences and directed by Michael Bergler, MDT, it is dedicated to the study and application of the latest dental technologies in CAD/CAM and all-ceramic restorative materials. Over the past eight years, the Center has continued to be outfitted with the most up-to-date software and scanning and milling equipment, while being a leader in working with industry to help refine and develop the technology moving the field forward.

“No other specialty is so heavily involved with the lab and having our CAD/CAM Center well established and heavily integrated will play an integral role in our students’ experience,” says Dr. Anadioti.

EXPANDING EDUCATIONAL RESOURCES
The clinical home for the prosthodontics program is the William W.M. Cheung Advanced Dental Care Clinic, located on the third floor of the School’s Robert Schattner Center. Along with chairside computers for accessing digital patient records and the availability of digital radiography and intraoral scanners, each operatory used by the residents will feature an operating microscope. Through a partnership with Carl Zeiss Meditec, the operators are being outfitted with ZEISS Extraro® 300 surgical microscopes.

“This is the latest generation of microscopes and the illumination and magnification will be a tremendous tool in patient care; plus, we’ll gain the ability to document cases for research and education,” says Dr. Anadioti, explaining that each microscope also includes a high-definition camera for still-image capture and video recording or streaming.
The prosthodontics residents will share the Advanced Dental Care Clinic with predoctoral students in the clinical honors program. The Clinic opened in 2010 to manage advanced cases in restorative and esthetic dentistry, and since then, has been the site of the Honors Program in Clinical Restorative Dentistry, open to qualifying fourth-year students.

From an educational perspective, honors students will benefit from the close proximity in the shared space and predoctoral students will rotate through the clinic, increasing their exposure to prosthodontics.

“The educational component of this new program is significant on a number of levels,” says Dr. Blatz. “We will establish a seamless teaching philosophy in prosthodontics from the preclinic through the postgraduate program. Then of course, the residents themselves will engage in teaching, and for our honors students, who have an interest in advanced restorative dentistry and prosthodontics, this offers a pathway for pursuing postdoctoral training and possibly even an academic career here at Penn.”

ENHANCING RESEARCH, SCHOLARSHIP
In creating the program, another priority was to ensure that residents not only developed clinical excellence using the latest technologies within prosthodontics but were also engaged in research leading the specialty’s evolution and impacting clinical techniques and outcomes. To that end, the residency is designed as a 36-month program that requires the research-focused Master of Science in Oral Biology to be pursued concurrently with the certificate in prosthodontics.

“Our goal is to develop clinician scholars and who are involved in academics, research, and new ways of thinking,” says Dr. Anadioti. “There are so many research topics within the digital realm that offer a huge opportunity for our residents to explore, and in turn, help lead clinical research in new directions.”

There will be full digital workflow integration. From the start of a case to the final restoration, our residents will be planning and executing cases digitally.”

― DR. EVANTHIA ANADIOTI

SERVING MORE PATIENTS
This new prosthodontics program may have the greatest impact through the expanded clinical services Penn Dental Medicine will be able to offer to a larger patient base, including individuals who are severely compromised and in need of comprehensive prosthetic and maxillofacial prosthetic treatment.

“Now that all the traditional dental specialties will be represented through our educational programs, we can truly be full service in terms of clinical care and cater to all the different patient needs,” says Dr. Blatz.

As part of the program, residents will do hospital rotations within both the Department of Oral & Maxillofacial Surgery/Pharmacology at the Hospital of the University of Pennsylvania and the dental department at the Philadelphia Veteran’s Administration (VA) Hospital. “Having these hospital rotations is going to enhance the program in so many ways,” says Dr. Anadioti, “exposing residents to different patient pools and types of cases.” She notes that there are a lot of patients needing extensive rehabilitations at the VA, and with only one staff prosthodontist, they are eager to have the residents support their patient care.

At HUP, the focus will be on maxillofacial prosthodontics. “Through surgery for cancer, a patient may lose an eye, an ear, a piece of their jaw — severely compromising their quality of life,” says Dr. Anadioti. “The recognized specialty to help restore their facial structures is maxillofacial prosthodontics.” To support this part of the program, maxillofacial prosthodontist Dr. Brian Chang was recently hired; he will work three days a week at HUP and teach at the School two days a week.

“This is an important piece of the puzzle,” adds Dr. Blatz. “Before, we didn’t have this type of training to treat this segment of patients. Now, through the residents’ education, a lot more people will be helped by this specialty care.”

It is the rewards that come with patient care that Dr. Anadioti says drew her to prosthodontics and what she believes will continue to attract students to the specialty. “As a resident when observing my faculty, I realized that a prosthodontist is like the conductor of an orchestra, bringing various specialists together and seeing the bigger picture – not only inside the mouth, but how that affects the person overall,” she recalls. “Changing someone’s life by restoring their smile, chewing function, or a part of their face is exceptionally rewarding, and I look forward to passing that along to our residents. Especially now, as the whole specialty is growing with tremendous technology, it is an exciting time to be starting a new program and an historic moment for both the specialty and Penn.”

― BY BETH ADAMS
Translating New Knowledge Across Disciplines

COLLECTIVELY, THE PENN DENTAL MEDICINE research enterprise spans scientific disciplines to translate new knowledge into clinical therapies that are expanding our understanding of disease and advancing patient care. In 2016, faculty and laboratory staff throughout our basic science and clinical departments continued to advance research and scholarship across their respective fields and beyond. Their commitment and passion for discovery are building on the School’s reputation as a leader in research and innovation.

Within FY16, the School was awarded approximately $12.5 million in new sponsored grants. The breadth of these grants is striking as they were funded by five different branches of NIH. Moreover, the faculty within our basic science and clinical departments published a total of 160 articles, more than a 50% increase over the number published in 2010. This represents an impressive increase and reflects well on the productivity of the faculty. On the pages that follow, we are pleased to highlight some of these research and scholarly activities for 2016, including:

- top grant awards within the basic science and clinical departments in 2016 (page 15);
- top five principal investigators for FY16 based on dollars spent (page 15);
- high impact articles on original research in 2016 within both the basic science and clinical departments (page 16) and high impact review articles in 2016 (page 17)

Also in 2016, our Department of Preventive & Restorative Sciences hosted a consensus conference on prosthetic protocols in implant-based rehabilitation (page 17). A consensus conference brings together eminent scientists and clinicians to focus on an important subject to describe current knowledge and provide state-of-the-art guidelines. As a leader in research, Penn Dental Medicine is ideally situated to provide an appropriate setting for these conferences and plans to hold several more in areas critical to basic and clinical oral sciences.

Indeed, Penn Dental Medicine researchers published papers and conducted studies with high impact in the scientific community as reflected in the quality of journals in which their work appeared, and together, through this work and the other wide range of scholarly activities among our faculty, they continue to move dental medicine and oral health sciences forward.

Dana Graves, DDS, DMSc
Vice Dean for Research and Scholarship
Professor and Interim Chair, Department of Periodontics
Director, Doctor of Science in Dentistry Program

In 2016, faculty and laboratory staff throughout our basic science and clinical departments continued to advance research and scholarship across their respective fields and beyond.
Top 2016 New Grant Awards in the Basic Science Departments

In 2016, the top five grant awards for new projects within the Penn Dental Medicine basic science departments, included:

**Role of PERK Haplotypes in HIV-Associated Neurocognitive Disorders**  
Principal Investigator: Dr. Kelly Jordan Sciutto, Dept. of Pathology  
(National Institute of Mental Health/NIH/DHHS, $2,753,238)

**Affordable Oral Delivery of Human Blood Protein Drugs Encapsulated in Plant Cells**  
Principal Investigator: Dr. Henry Daniell, Dept. of Biochemistry  
(National Heart, Lung, and Blood Institute/NIH/DHHS, $2,717,483)

**Approaches to Enhance Lysosomal Function in RPE Cells**  
Principal Investigator: Dr. Claire Mitchell, Dept. of Anatomy & Cell Biology  
(National Eye Institute/NIH/DHHS, $2,012,500)

**Local Endogenous Regulators of Functional Immune Plasticity in the Periodontium**  
Principal Investigator: Dr. George Hajishengallis, Dept. of Microbiology  
(National Institute of Dental and Craniofacial Research/NIH/DHHS, $1,762,750)

**Role of a Novel Human Mast Cell G Protein Coupled Receptor in Allergy and Inflammation**  
Principal Investigator: Dr. Hydar Ali, Dept. of Pathology  
(National Institute of Allergy and Infectious Diseases/NIH/DHHS, $1,610,000)

Top 2016 New Grant Awards in the Clinical Science Departments

In 2016, the top five grant awards for new projects within the Penn Dental Medicine clinical science departments, included:

**Mechanisms for Impaired Diabetic Oral Wound Healing**  
Principal Investigator: Dr. Dana Graves, Dept. of Periodontics  
(National Institute of Dental and Craniofacial Research/NIH/DHHS, $2,311,470)

**A Novel Anti-Caries Approach to Modulate Virulence of Cariogenic Biofilms**  
Principal Investigator: Dr. Hyun (Michel) Koo, Dept. of Orthodontics and Divs. of Pediatric Dentistry and Community Oral Health  
(National Institute of Dental and Craniofacial Research/NIH/DHHS, $1,922,703)

**Biofilm Elimination and Caries Prevention using Multifunctional Nanocatalysts**  
Principal Investigator: Dr. Hyun (Michel) Koo, Dept. of Orthodontics and Divs. of Pediatric Dentistry and Community Oral Health  
(National Institute of Dental and Craniofacial Research/NIH/DHHS, $1,881,793)

**A Double-Blind, Partial Cross-Over, Incomplete Factorial Study to Assess the Local Anesthetic Efficacy and Safety of CTY-5339 Anesthetic Spray (CTY-5339-A) when applied to the Cheek Mucosal Tissue in Normal Volunteers**  
Principal Investigator: Dr. Elliot Hersh, Dept. of Oral Surgery/Pharmacology  
(Cetylite, Inc., $249,170)

**Defining Mechanical Injury, Hypoxia and Disease Progression in TMJ OA and Pain**  
Principal Investigator: Dr. Qunzhou Zhang, Dept. of Oral Surgery/Pharmacology  
(Osteo Science Foundation, $100,000)

Top FY16 Principal Investigators

The top five principal investigators for Penn Dental Medicine in FY16 based on dollars spent, included:

<table>
<thead>
<tr>
<th>FACULTY/DEPARTMENT</th>
<th>FY16 TOTAL</th>
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<tbody>
<tr>
<td>Dr. Kelly Jordan-Sciutto</td>
<td>$1,674,259</td>
</tr>
<tr>
<td>Pathology</td>
<td></td>
</tr>
<tr>
<td>Dr. George Hajishengallis</td>
<td>$1,669,110</td>
</tr>
<tr>
<td>Microbiology</td>
<td></td>
</tr>
<tr>
<td>Dr. Henry Daniell</td>
<td>$1,214,455</td>
</tr>
<tr>
<td>Biochemistry</td>
<td></td>
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<tr>
<td>Dr. Dana Graves</td>
<td>$1,135,575</td>
</tr>
<tr>
<td>Periodontics</td>
<td></td>
</tr>
<tr>
<td>Dr. Kathleen Boesze-Battaglia</td>
<td>$945,368</td>
</tr>
<tr>
<td>Biochemistry</td>
<td></td>
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</table>
### 2016 High Impact Articles: Basic Science Departments

Among the original research articles published in 2016 by faculty in the School’s basic science departments, following is a selection of key articles with high impact among those by first or senior authors (indicated in bold).

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>ARTICLES</th>
<th>JOURNAL</th>
<th>DEPARTMENT</th>
</tr>
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<tbody>
<tr>
<td>Yuan, X., Cao, J., He, X., Serra, R., Qu, J., Cao, X.</td>
<td>Ciliary IFT80 balances canonical versus non-canonical hedgehog signalling for osteoblast differentiation</td>
<td>Nature Communications</td>
<td>Anatomy and Cell Biology</td>
</tr>
<tr>
<td>Xiao, Y., Kwon, K.-C., Hoffman, B.E., Kamesh, A., Jones, N.T., Herzog, R.W., Daniell, H.</td>
<td>Low cost delivery of proteins bioencapsulated in plant cells to human non-immune or immune modulatory cells</td>
<td>Biomaterials</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Kwon, K.-C., Chan, H.-T., León, I.R., Williams-Carrier, R., Barkan, A., Daniell, H.</td>
<td>Codon optimization to enhance expression yields insights into chloroplast translation</td>
<td>Plant Physiology</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Scuron, M.D., Boesze-Battaglia, K., Dlakic, M., Shenker, B.J.</td>
<td>The cytolethal distending toxin contributes to microbial virulence and disease pathogenesis by acting as a tri-perditious toxin</td>
<td>Frontiers in Cellular and Infection Microbiology</td>
<td>Pathology</td>
</tr>
<tr>
<td>Lim, J.C., Lu, W., Beckel, J.M., Mitchell, C.H.</td>
<td>Neuronal release of cytokine IL-3 triggered by mechanosensitive autostimulation of the P2X7 receptor is neuroprotective</td>
<td>Frontiers in Cellular Neuroscience</td>
<td>Anatomy and Cell Biology</td>
</tr>
</tbody>
</table>

### 2016 High Impact Articles: Clinical Departments

Among the original research articles published in 2016 by faculty in the School’s clinical departments, following is a selection of key articles with high impact among those by first or senior authors (indicated in bold).

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>ARTICLES</th>
<th>JOURNAL</th>
<th>DEPARTMENT</th>
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<tbody>
<tr>
<td>Liu, Y., Kamesh, A.C., Xiao, Y., Sun, V., Hayes, M., Daniell, H., Koo, H. (Koo, H. and Daniell, H. are co-senior authors)</td>
<td>Topical delivery of low-cost protein drug candidates made in chloroplasts for biofilm disruption and uptake by oral epithelial cells</td>
<td>Biomaterials</td>
<td>Orthodontics/Divisions of Pediatric Dentistry and Community Oral Health and Biochemistry</td>
</tr>
<tr>
<td>Tarapore, R.S., Lim, J., Tian, C., Pacios, S., Xiao, W., Reid, D., Guan, H., Mattos, M., Yu, B., Wang, C.-Y., Graves, D.T.</td>
<td>NF-κB Has a Direct Role in Inhibiting Bmp- and Wnt-Induced Matrix Protein Expression</td>
<td>Journal of Bone and Mineral Research</td>
<td>Periodontics</td>
</tr>
<tr>
<td>Lee, S., Zhang, Q.Z., Karabucak, B., Le, A.D.*</td>
<td>DPSCs from inflamed pulp modulate macrophage function via the TNF-α/IDO axis</td>
<td>Journal of Dental Research</td>
<td>Oral Surgery/ Pharmacology</td>
</tr>
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* Both published in JDR
2016 High Impact Review Articles

Among the review articles published in 2016 by the School’s faculty, following is a selection of key articles with high impact among those by first or senior authors (indicated in bold).

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>ARTICLES</th>
<th>JOURNAL</th>
<th>DEPARTMENT</th>
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<tbody>
<tr>
<td>Subramanian, H., Gupta, K., Ali, H.</td>
<td>Roles of Mas-related G protein-coupled receptor X2 on mast cell-mediated host defense, pseudoallergic drug reactions, and chronic inflammatory diseases</td>
<td>Journal of Allergy and Clinical Immunology</td>
<td>Pathology</td>
</tr>
<tr>
<td>Daniell, H., Chan, H.-T., Pasoreck, E.K.</td>
<td>Vaccination via Chloroplast Genetics: Affordable Protein Drugs for the Prevention and Treatment of Inherited or Infectious Human Diseases</td>
<td>Annual Review of Genetics</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Daniell, H., Lin, C.-S., Yu, M., Chang, W.-J.</td>
<td>Chloroplast genomes: Diversity, evolution, and applications in genetic engineering</td>
<td>Genome Biology</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Hajishengallis, G., Lambris, J.D.</td>
<td>More than complementing Tolls: complement-Toll-like receptor synergy and crosstalk in innate immunity and inflammation</td>
<td>Immunological Reviews</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Hajishengallis, G., Lamont, R.J.</td>
<td>Dancing with the Stars: How Choreographed Bacterial Interactions Dictate Nososymbiocity and Give Rise to Keystone Pathogens, Accessory Pathogens, and Pathobionts</td>
<td>Trends in Microbiology</td>
<td>Microbiology</td>
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Penn Dental Hosts Prosthetic Protocols Consensus Conference

Penn Dental Medicine joined with the Foundation for Oral Rehabilitation (FOR) to host the FOR 2016 Consensus Conference, Nov. 30 – Dec. 1, on the topic of prosthetic protocols in implant-based rehabilitation. Dr. Markus Blatz, Professor and Chair of Preventive & Restorative Sciences at Penn Dental Medicine served as Co-Chair of the meeting, bringing together an international panel of experts in the field of prosthodontics.

Select participants conducted systematic literature reviews on different aspects of implant-based rehabilitation prior to the meeting for discussion by the group assembled. Those literature review topics and presentations included: removable versus fixed implant-supported dentures; clinical outcomes of full arch implant-supported zirconia prostheses; influence of abutment material on biologic/clinical outcomes; immediate-load zygoma implants; full-contour monolithic implant restorations; digital versus conventional implant impressions; fit of prosthetic components and clinical outcomes; material selection and clinical outcomes; and clinical performance of CAD/CAM monolithic ceramic implant-supported restorations bonded to titanium.

“We were honored and proud of the opportunity to host and chair this exceptional conference with global leaders and authorities in the field of prosthodontics, who compiled an extraordinary wealth of significant and relevant information,” says Dr. Blatz. “High-quality systematic reviews and consensus conferences have become increasingly important in recent years as the backbone of evidence-based dentistry.”

The outcomes of the conference will be published as a special issue of the European Journal of Oral Implantology (publication is anticipated in mid-2017) and will also be shared via www.FOR.org.

This was FOR’s third consensus conference. Established in 2013, FOR is an independent, international initiative that unites professionals from various disciplines to improve oral health care and support humanitarian leadership.

Dr. Kelly Jordan-Sciutto, Chair and Professor of Pathology, has focused her research on neurodegeneration and neuroinflammation, particularly as it relates to HIV infection. It is a research agenda with an impact broader than dental medicine, Dr. Jordan-Sciutto says, but one that fits well with Penn Dental Medicine’s diverse approach to basic science research.

Now, in a move that will further build bridges for dental faculty and students to collaborate on research with colleagues across the University of Pennsylvania, Dr. Jordan-Sciutto was appointed Director of Biomedical Graduate Studies (BGS) at Penn, effective Feb. 1, 2017; in this position, she will also hold the title of Associate Dean for Graduate Education in Penn’s Perelman School of Medicine. She is the first person to serve as Director of BGS who does not have a primary faculty appointment in the Perelman School of Medicine.

In sharing news of her appointment with the Penn Dental Medicine community, Dean Denis Kinane, noted that it “reflects her outstanding leadership, extensive service to the University, and status as an extraordinary researcher. This appointment will help us to better integrate our research and PhD mentoring across Penn for the betterment of all.”

Established in 1985, BGS enrolls about 700 students in seven PhD programs in basic biomedical sciences. With some 650 faculty members across seven Penn schools, including Penn Dental Medicine, BGS serves as a national model for interdisciplinary education in the biomedical sciences.

Dr. Jonathan A. Epstein, Executive Vice Dean, Chief Scientific Officer and William Wikoff Smith Professor of Cardiovascular Research, Perelman School of Medicine, and Dr. Beth Winkelstein, Vice Provost for Education,
and Professor of Bioengineering, said in announcing Dr. Jordan-Sciutto’s appointment that she “will bring bold ideas, enthusiasm, and a strong commitment to teaching and training to this critical leadership role.” With her selection, they continued, “We see a truly unique opportunity to further strengthen connections across programs, Schools, and the University.”

In addition to her membership in four of seven graduate groups within BGS, Dr. Jordan-Sciutto is a member of the Center for AIDS Research and the Mahoney Institute of Neurological Sciences and a fellow in the Institute of Aging in the Perelman School of Medicine. She also serves as Co-Director of the Penn Post-baccalaureate Research Education Program.

CREATING OPPORTUNITIES FOR INTERPROFESSIONAL RESEARCH
As she assumes her new responsibilities, Dr. Jordan-Sciutto retains her position as Chair and Professor as well as teaching and research commitments at Penn Dental Medicine. Penn, she says, is “a very integrated campus” and provides a unique opportunity for faculty and students throughout the University to work together. “I would like to enhance this further and create more opportunity for dental students and others to engage in interprofessional and cross-disciplinary research,” she notes.

“The basic sciences at any professional school have common roots,” Dr. Jordan-Sciutto says.

“People need to understand a problem from more than one perspective. The best way to get at a question is to work collaboratively — whether dental, veterinary, or medicine — to move things at the forefront of science. The more we work together, the more we can get done.”

She says she hopes the visibility of her new roles will help make “faculty and students in Penn Dental Medicine more interested in research and graduate education. I’ve already seen more interest by students in research, and the more opportunity they have to do research, the better it is for their educations.”

And while she and other researchers from Penn Dental Medicine have long been involved in basic science research at the University, including Perelman School of Medicine and the Schools of Veterinary Medicine, Engineering and Applied Science, Arts and Sciences, and Nursing, she now has a broader platform to promote understanding of the resources at Penn Dental Medicine to the wider University. “What I bring back to the School in my teaching and my interaction with colleagues are my experiences in medical research,” she says, “and now, I’m in a position where I can help include dentistry more prominently.”

Dr. Jordan-Sciutto says her appointment further highlights the value of the Dental School faculty to Penn’s research community. “People are aware of our outstanding clinical expertise and, since the arrival of Dean Kinane, our research profile has risen further due to the strong research programs of the faculty,” she says. “It’s an exciting time to be at the Dental School.”
Dr. Jordan-Sciutto’s appointment as Associate Dean and Director of Biomedical Graduate Studies is just one example of the strong interprofessional role of Penn Dental Medicine faculty and students throughout the University. Recently, there have been several other noteworthy awards and initiatives that highlight Penn Dental Medicine’s interprofessional work and contributions.

**DR. ELLIOT HERSH RECEIVES 2016 PENN ONE HEALTH AWARD**

This fall, Dr. Elliot Hersh, Professor in the Department of Oral & Maxillofacial Surgery/Pharmacology, was one of three University of Pennsylvania faculty members to receive Penn’s 2016 One Health Award, which recognizes exemplary contributions to expanding interdisciplinary collaboration across Penn’s health science schools and improving health care for the benefit of humans, animals, and the environment.

Dr. Hersh, in collaboration with fellow award recipients Dr. John T. Farrar, Associate Professor of Epidemiology, Department of Biostatistics and Epidemiology at the Perelman School of Medicine, and Dr. Rosemary Polomano, Associate Dean and Professor of Pain Practice at the School of Nursing, leads an interdisciplinary course on pain science and practice for Penn dental, nursing, and medical students. The course stems from the faculty members’ work as co-principal investigators on the NIH-funded Penn Center for Excellence in Pain Education.

Since 2013, the innovative academic pain course has been an interschool and interinstitutional draw for more than 400 students, clinicians, and international colleagues. Reflecting national concerns, the course helps to train the next generation of interprofessional health care providers in pain care and pain management, who are learning to develop strategies to reduce the opioid misuse, abuse, and addiction associated with the treatment of pain. According to the American Academy on Pain Management, some 75 million Americans live with chronic or acute pain.

Dr. Hersh’s research focus is on novel local anesthetic drugs and alternatives to opioids in the management of acute postoperative pain, and his clinical research plays a key role in developing and carrying out FDA-pivotal clinical trials.

The course, previously offered over two weekends in January, this year will be offered as a seminar series, the first of which was held April 11. Penn Dental Medicine students, who can take the course as an elective, benefit from the course in several ways, Dr. Hersh says. For one, they are presented with pain areas for which they get little formal education at Penn Dental Medicine, such as sickle cell, limb amputation, and chronic back pain. Also importantly, he says the course provides dental students with the opportunity to network and collaborate with students in other health professional disciplines, thus broadening their overall understanding of non-dental-related pain their patients may experience and the treatments they are receiving for these chronic pain conditions.

“I am extremely honored to win this prestigious award, and very fortunate to continue to work with Dr. Farrar and Dr. Polomano in both the research and teaching arenas,” Dr. Hersh says.

**DR. ERIC STOOPLER NAMED PENN MEDICINE MASTER CLINICIAN**

Dr. Eric Stoopler, Associate Professor of Oral Medicine and Director of the Oral Medicine Residency Program, has been named the first Penn Dental Medicine faculty member elected to The Academy of Master Clinicians, the highest clinical honor bestowed by Penn Medicine.

“I am truly honored to be included in this prestigious group,” Dr. Stoopler says. “Inclusion in the Academy reflects the vital importance of oral medicine clinical services within the health system and the strong reputation of the department throughout the University.”

Dr. Stoopler was one of 13 faculty members selected for the Academy’s Class of 2016; the others are physicians from departments and entities across Penn Medicine.

He expects his membership in the Academy will serve to strengthen the interprofessional ties that already exist between Penn Dental Medicine, Penn Medicine, and the University. The Department of Oral Medicine, he notes, has a long history of interprofessional collaboration with several departments in the Perelman School of Medicine and is currently developing interprofessional clinical practice models with the School of Nursing.
“Penn Dental Medicine students regularly participate in academic and clinical activities with students and faculty from both these schools,” Dr. Stoopler says. “My recognition as a Master Clinician will enable me to foster new relationships with clinicians in this unique forum, which will lead to development of new interprofessional educational opportunities for dental students.”

Dr. Stoopler routinely sees patients referred from a variety of Penn Medicine clinical departments for evaluation and management of oral medicine conditions, collaborating regularly with colleagues in internal medicine, dermatology, endocrinology, otorhinolaryngology, radiation oncology, cardiology, cardiothoracic surgery, psychiatry, neurosurgery, and other clinical practices.

The Academy of Master Clinicians, established in 2013, recognizes and promotes clinical excellence across Penn Medicine by fostering the highest standards of patient care, with a dedication to the art of medicine, education, professionalism, humanism, collegiality, and citizenship.

In particular, a Master Clinician is recognized as an outstanding educator and patient advocate and is recognized for exceptional clinical skills, excellent judgment, integrity, and exemplary interpersonal and communication skills with patients and colleagues.

NEW PARTNERSHIP IN HEALTH SERVICES RESEARCH PROGRAM

In a new initiative, Penn Dental Medicine students now have the opportunity to participate in a summer program at Penn that explores health services research in the area of health disparities. First-year student Andrew Ng (D’20) will be the first to take part this summer.

Penn Dental Medicine students now have the opportunity to participate in a summer program at Penn that explores health services research in the area of health disparities.

The program is co-sponsored by the Leonard Davis Institute of Health Economics and the Health Care Management Department of the Wharton School to prepare top candidates to pursue careers in health services research, a multidisciplinary field that considers the political, social, economic, and environmental issues that can impact health care access, treatment, and costs. Initially established for undergraduates from underrepresented minority groups, dental students may now apply to participate in the 10-week program.

“Students with an interest in health services research will have an opportunity to explore it further and perhaps choose a career path that allows them to practice and continue doing this type of research,” said Dr. Uri Hangorsky, Associate Dean for Student Life and Director of PASS. “This program could introduce them to a new aspect of research and encourage them to pursue an academic career in dentistry.”

The summer research program provides another platform for Penn Dental Medicine students to engage with students and faculty in other academic disciplines, promoting cross-school collaborative research opportunities. Furthering this interprofessional experience, participating Penn Dental Medicine students will each work with a Penn faculty mentor outside the field of dentistry, while addressing important health care issues that may cross disciplinary lines.

The program starts in June with an introduction to research skills boot camp and continues with weekly seminars. A highlight of the experience will be the opportunity for participants to attend Academy Health’s Annual Research Meeting in New Orleans in June. At the end of the program, students give a symposium presentation based on their research. Students also often work with their faculty mentor to submit their work for publication.

“It is a wonderful interprofessional opportunity for our students,” says Susan Schwartz, Assistant Dean for Academic Services and Student Life, “enabling them to take advantage of the many resources and opportunities available at Penn that otherwise may not have been tapped.”

— By Debbie Goldberg

LEFT: Dr. Elliot Hersh, Professor, Department of Oral & Maxillofacial Surgery/Pharmacology.
ABOVE: Dr. Eric Stoopler, Associate Professor of Oral Medicine (left), with an oral medicine resident.
Silver Diamine Fluoride: An Alternative Treatment for Early Childhood Caries?

EARLY CHILDHOOD CARIES (ECC) is defined as caries affecting children younger than 6 years of age. Being more common than asthma (5 times), childhood obesity (4 times) and diabetes (20 times), ECC is by far the most common chronic childhood disease. ECC is a virulent form of caries that affects predominantly children of low-income families and can result in painful pulpal infections and systemic complications leading to emergency room visits, hospitalization, and occasionally, even death.

Because children with ECC have a higher risk for future carious lesions in both primary and permanent dentitions, considerable emphasis has been recently placed on caries prevention programs (i.e., dental insurances now reimburse for 3-month recall visits). Traditional treatment of ECC lesions involves the use of a handpiece to remove the carious areas and prepare the tooth for a restoration or placement of a crown. Due to the extent of the disease and the precocious or uncooperative behavior of the affected children, treatment often takes place under sedation or general anesthesia in a hospital or surgical center setting. These types of treatments exhaust a great share of dental expenditures, and, most importantly, have recently raised serious safety concerns with the U.S. Food and Drug Administration (FDA) issuing a notice that general anesthesia in young children may result in permanent neurological damage.

Our understanding of the etiology and progress of caries has evolved in recent years, and the focus now is placed not only on the prevention but also the arrest of the ECC process. In this regard, fluoride varnish and interventional restorative techniques are being utilized more often than in the past as less invasive, non-surgical procedures to halt the caries disease in precocious, uncooperative healthy or special health care needs children, or children with problem accessing oral health care. The success of these procedures has created hope that other chemotherapeutic agents can be developed to help fight ECC.

One such promising chemotherapeutic medicament is the 38% silver diamine fluoride (SDF), which has recently appeared in the U.S. dental literature and popular magazines as an inexpensive, safe, and easily applied liquid, almost a “magic bullet” in arresting large carious lesions in very young children. SDF contains 24–27% (w/v) silver and 5–6% (w/v) fluoride (approximately 44,800 ppm fluoride, almost double the amount in the 5% NaF varnishes). While the silver ions of SDF exert an antimicrobial action against the cariogenic bacteria, the fluoride ions react with the enamel hydroxyapatite, resulting in the formation of fluorapatite, which is more resistant to acid attacks than hydroxyapatite.

Following application of SDF, carious dentin is stained black. The black dentin layer is associated with a hard impermeable layer of silver phosphate that protects the exposure of collagen and occludes the dentinal tubules, thereby contributing to arresting dentin caries. This property renders SDF a very effective treatment. Therefore, the main indication of SDF application is to arrest frank cavitated active lesions that involve dentin exposure, whereas fluoride varnish is used to prevent caries and arrest demineralized non-cavitated lesions. These properties of SDF along with its easy application may offer an alternative option to conventional restorative techniques not only for the very young children, but also for adult patients with phobias, medical complexities, or neurodevelopmental disabilities.

The 38% SDF was developed in 1969 in Japan and has been used for many years in Australia, Argentina, Brazil, and other countries. In 2014, the FDA cleared SDF in the U.S. as a device to treat hypersensitivity. Therefore, its utilization in arresting caries is an off-label use similar to fluoride varnish. In the U.S., the only commercially available SDF product for dental use is ADVANTAGE Arrest (Elevate Oral Care, LLC). Side effects of SDF application include an unpleasant metallic taste and gingival and mucosal irritation. The most prominent and lasting side effect is the irreversible black staining of the carious areas of teeth. The only contraindication for the use of SDF is stomatitis, ulcerative gingival lesions, and silver allergies.

The majority of the available studies on SDF involve primary teeth and show an average efficacy of 66% in arresting cavitated lesions with the best results following six-month reapplications. The few available studies on permanent teeth also indicate a significant positive affect, most notably to arrest root caries in elderly patients. The application of SDF has raised many questions within the dental community regarding patient selection and best practices for SDF use. As the use of SDF is expanding in the U.S., this will undoubtedly lead to more relevant publications on the indications for SDF application, which in turn will help refine the protocol for its use and define its exact place in oral health care.
ANATOMY & CELL BIOLOGY

NEWS/ACHIEVEMENTS
Dr. Claire Mitchell has been promoted to Professor, Dept. of Anatomy & Cell Biology, effective July 1, 2017.

SELECTED PUBLICATIONS
A selection of recently published work by department researchers (indicated in bold).


RECENT NEW GRANT AWARDS

Approaches to Enhance Lysosomal Function in RPE Cells
Chloroquine retinopathy can lead to the loss of vision, with numbers rising as the use of chloroquine increases. While the drug is known to target the lysosomes of RPE cells, it is unclear how this leads to pathology. This study will determine whether novel functions of RPE lysosomes like calcium signaling and secretion are impaired by chloroquine and evaluate the ability of treatments to reduce the damage.

Funding Source: NIH
Principal Investigator: Dr. Claire Mitchell,
Associate Professor

BIOCHEMISTRY

SELECTED PUBLICATIONS
A selection of recently published work by department researchers (indicated in bold).


RECENT NEW GRANT AWARDS

Control of Pathogenic Microbes through Disruption of Oral Biofilms Using Therapeutic Proteins Produced in Edible Plant Chloroplasts
This initial research exploration will provide proof of concept that Dr. Henry Daniell’s plant-based, biofilm degrading enzymes will augment the performance of known antimicrobial compounds (e.g. essential oils) in Dr. Hyun (Michel) Koo’s (Dept. of Orthodontics) in vitro biofilm models.
Funding Source: Johnson & Johnson
Principal Investigator: Dr. Henry Daniell, Professor and Interim Chair

BATTING HEMOPHILIA
A study from the lab of Dr. Henry Daniell, using his plant-based platform, gives hope for a therapy to keep hemophilia patients from developing antibodies that cause a rejection of clotting-factor infusions. Successful results in dogs move it closer to the clinic. See the following publication:


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ENDODONTICS

NEWS/ACHIEVEMENTS
Dr. Bekir Karabucak (GD’97, D’02). Associate Professor of Endodontics, was named Chair, Dept. of Endodontics; he had been serving as Interim Chair since Oct. 2014. On the global stage, Dr. Syngcuk Kim, Louis I. Grossman Professor, and Dr. Karabucak travelled to China, lecturing and presenting a hands-on course at the School of Stomatology at Wuhan University in October 2016. In December 2016, Dr. Karabucak and Dr. Sam Kratchman (GD’91), a Clinical Associate Professor of Endodontics, travelled to Krakow, for the 18th Pulp Fiction Meeting, lecturing on microsurgery and revascularization. Also in December, Dr. Meetu Kohli (D’02, GD’05), a Clinical Associate Professor of Endodontics, travelled to Beirut, lecturing on microsurgery and on revascularization. And March 9–11, 2017, the Dept. of Endodontics presented the Penn Endo Global Symposium in Cali, Colombia.

SELECTED PUBLICATIONS
A selection of recently published work by department researchers (indicated in bold).


RECENT NEW GRANT AWARDS
Local Endogenous Regulators of Functional Immune Plasticity in the Periodontium
Preliminary studies indicate that a protein expressed by periodontal tissue resident cells, designated Del-1, acts as a gatekeeper of inflammation. This project investigates the hypothesis that Del-1 additionally promotes resolution of inflammation and restores tissue integrity, thereby paving the way to a new class of endogenous therapeutic molecules for treating periodontitis. Funding Source: NIH Principal Investigator: Dr. George Hajishengallis, Thomas W. Evans Centennial Professor

Neutrophil Homeostasis and Periodontitis: Novel Concepts and Treatments
Leukocyte adhesion deficiency Type I (LAD-I) leads to destruction of periodontal bone and premature loss of primary and permanent teeth. The underlying etiology has been attributed to impaired neutrophil surveillance of the periodontal infection, although this form of periodontitis has proven unresponsive to antibiotics and/or mechanical removal of the tooth-associated biofilm. This project investigates the hypothesis that LAD-I–associated periodontitis is driven by the disruption of a key neutrophil homeostatic mechanism that leads to overproduction of a potent bone-resorptive cytokine ( interleukin 17) and proposes novel treatments that can block this destructive process. Funding Source: NIH Principal Investigator: Dr. George Hajishengallis, Thomas W. Evans Centennial Professor
High-throughput SPR for Screening and Characterizing Vaccines

For this Direct-to-Phase II SBIR, Wasatch proposes to build a custom Surface Plasmon Resonance (SPR) sensor for vaccine research that injects 96 samples simultaneously and incorporates an array detector with 384 sensing locations that maintains the data quality and protocols of current SPR systems.

Funding Source: Wasatch Microfluidics, NIH

Principal Investigator: Dr. Gary Cohen, Professor

Predicting Epitopes in Vaccine and Therapeutic Antibody Research

A thorough knowledge of the immune response generated in the herpes-infected human is key to development of a rational vaccine candidate. Detailed characterization of antigen binding is fundamental to understanding and potentially improving mechanisms of action of vaccines. By enabling a rich analysis at much higher throughput than traditional structural studies, this approach promises to better drive discovery and development of herpes vaccines and therapeutic antibodies.

Funding Source: Wasatch Microfluidics, NIH

Principal Investigator: Dr. Gary Cohen, Professor

ORAL MEDICINE

NEWS/ACHIEVEMENTS

Dr. Eric Stoolper (D’99, GD’02) was elected a Fellow of the Faculty of Dental Trainers, The Royal College of Surgeons of Edinburgh, and was installed as President-Elect of the American Academy of Oral Medicine at the 71st Meeting of the American Academy of Oral Medicine.

After more than 40 years of service, Dr. Farideh M. Madani (GD’78, GD’80, D’84) retired as Clinical Professor of Oral Medicine. In addition, Dr. Arthur Kuperstein, Clinical Assistant Professor of Oral Medicine, resigned from full-time teaching, but he continues to teach part-time.

Dr. Mel Mupparapu (D’96), Professor of Oral Medicine, received Penn’s Lindback Award for Distinguished Teaching.

SELECTED PUBLICATIONS

A selection of recently published work by department researchers (indicated in bold).


Dr. Erin J. Granquist (M’07, GD’10, RES’10). Assistant Professor of Oral & Maxillofacial Surgery/Pharmacology, was elected President of the Clinical Interests Group (CIG) for TMJ disorders within the American Association of Oral and Maxillofacial Surgeons (AAOMS).

Dr. Granquist and Dr. Helen Giannakopoulous (GD’02). Associate Professor of Oral & Maxillofacial Surgery/Pharmacology, were inducted into the Academy of Stomatology.

Dr. Rabie Shanti, Assistant Professor of Oral & Maxillofacial Surgery/Pharmacology, spoke at the 2016 Meeting of the American Academy of Facial Plastic and Reconstructive Surgery on the role of age in free-flap reconstruction. He was also a speaker at the 2nd Annual Oral and Maxillofacial Surgery Residents’ Night of the New York Academy of Medicine in November 2016, and in February 2016, at the 3rd District Meeting of the Pennsylvania Osteopathic Medicine Association in York, PA, addressing advancements in the management of head and neck cancer. And, he presented a poster related to tongue tissue engineering at the 2017 IADR/AADR/CADR.

SELECTED PUBLICATIONS

A selection of recently published work by department researchers (indicated in bold).


RECENT NEW GRANT AWARDS

Defining Mechanical Injury, Hypoxia, and Disease Progression in TMJ Osteoarthritis and Pain

Over 70% of the population report signs/symptoms of temporomandibular joint disorders (TMD), most of which are managed with physical therapy and/or NSAIDs. Yet, 15% of TMD cases present as an aggressive disease recalcitrant to
therapies, and lead to chronic centralized pain, making TMDs the second most common musculoskeletal condition.

**Funding Source:** Oral and Maxillofacial Surgery Foundation  
**Principal Investigator:** Dr. Eric Granquist, Assistant Professor

### A Double-Blind, Partial Cross-Over, Incomplete Factorial Study to Assess the Local Anesthetic Efficacy and Safety of CTY-5339 Anesthetic Spray when Applied to the Cheek Mucosal Tissue in Normal Volunteers

This study will assess the safety and efficacy of an anesthetic spray.  
**Funding Source:** Cetylite  
**Principal Investigator:** Dr. Elliot Hersh, Professor

### Penn Multidisciplinary Consortium: Personalized Dental, Oral and Craniofacial Tissue Regeneration

This study will delineate the role of stromal cell-derived IL-6 in the regulation of EMT process and acquisition of stem-like cell properties in ameloblastoma epithelial cells and the underlying signaling mechanisms.  
**Funding Source:** Oral and Maxillofacial Surgery Foundation  
**Principal Investigator** Dr. Quanzhou Zhang, Senior Research Investigator

### ORTHODONTICS

#### NEWS/ACHIEVEMENTS

**Dr. Peter Greco (D’79, GD’84).** Clinical Professor of Orthodontics, continues to write the monthly column “Ethics in Orthodontics” in the American Journal of Orthodontics and Dentofacial Orthopedics.

#### SELECTED PUBLICATIONS

A selection of recently published work by department researchers (indicated in bold).


#### RECENT NEW GRANT AWARDS

**A Novel Anti-Caries Approach to Modulate Virulence of Cariogenic Biofilms** Dr. Koo’s lab has developed a new anti-caries approach by combining food-derived antibiofilm agents and fluoride with nanotechnology. Nanoparticle carriers (NPC) can maximize drug efficacy via enhanced retention and pH-activated release of therapeutic agents at the tooth/biofilm interface and can encapsulate the bioactive agents to make them water-soluble. The low-cost and flexibility of NPC chemistry allows further optimization and utilization in a variety of applications (from mouthrinses/toothpaste to dental materials).  
**Funding Source:** NIH  
**Principal Investigator:** Dr. Hyun (Michel) Koo, Professor

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### PATHOLOGY

#### NEWS/ACHIEVEMENTS

**Dr. Faizan Alawi, Associate Professor, Dept. of Pathology, has been appointed Penn Dental Medicine Associate Dean for Academic Affairs, overseeing the four-year predoctoral academic program.**

**Dr. Hydar Ali, Professor, Dept. of Pathology, has been named Director of Faculty Advancement and Diversity, at Penn Dental Medicine.**

#### SELECTED PUBLICATIONS

**A Potential New Target for Modulating mast cell-mediated allergic and inflammatory diseases.**  
Dr. Ali’s lab has discovered a new receptor protein that is expressed on the surface of human mast cells. Understanding the molecular mechanism of its activation may provide new approaches to modulate allergic and inflammatory diseases.  
**Funding Source:** NIH  
**Principal Investigator:** Dr. Hydar Ali, Professor

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**Role of a Novel Human Mast Cell G Protein Coupled Receptor in Allergy and Inflammation**

**Role of PERK Haplotypes in HIV-Associated Neurocognitive Disorders**

This study will assess the mechanisms underlying HIV- and antiretroviral drug-mediated perturbations in cellular and molecular processes that are shown to be dysregulated in age-associated neurodegenerative processes, with the aim of identifying genetic risk factors that
may contribute to these issues within the brains of HIV-positive patients.

Role of Heme Oxygenase-1 Microsatellite Polymorphisms in HIV-associated Neurocognitive Disorders: Utilizing SecoisolariciresinolDiglucose as a Targeted Therapeutic Approach in African American Patients

Human monocyte derived macrophages will be isolated from African American donors and non-African American donors and infected with various HIV tropism in the presence and absence of Secoisolariciresinol diglucose to assess: infectivity, changes in secretory profiles, neurotoxicity, and HIV-1 signaling.

Funding Source: Icahn School of Medicine at Mount Sinai

Principal Investigator: Dr. Kimberly Williams, Postdoctoral Fellow, Jordan-Scuito Lab

**PERIODONTICS**

**SELECTED PUBLICATIONS**

A selection of recently published work by department researchers (indicated in bold).


Dr. Dana Graves, Professor and Interim Chair, Dept. of Periodontics, led a Symposium on Bone Biology and Its Impact on Periodontics and Implantology in November 2016 at Penn Wharton China Center in Beijing. It was the first of four programs to be presented by Penn Dental Medicine through support from Penn’s China Research and Engagement Fund.

Dr. Graves also gave the 2016 Ohio State University Distinguished Speaker lecture at the College of Dentistry.

Dr. Kang Ko (D’15, GD’18), a periodontics/DsSc resident, was a recipient of the Henry M. Thornton/SCADA Fellowship, presented by the Student Clinician Research Program of the ADA (SCADA) in support to SCADA Associates in postgraduate study.

Dr. Ernesto Lee (GD’87), Director of the Periodontal Prosthetics Program, was named Chair of the Education Committee of the Greater New York Academy of Prosthodontics (GNYP). He also was a guest speaker at the 2016 GNYP annual meeting.

**PREVENTIVE & RESTORATIVE SCIENCES**

**NEWS/ACHIEVEMENTS**

Dr. Markus Blatz, Professor and Chair of Preventive & Restorative Sciences, served as guest editor of the annual meeting of the Compendium of Continuing Education in Dentistry. This October 2016 edition was titled “Addressing the Challenges of Modern Materials.”

**SELECTED PUBLICATIONS**

A selection of recently published work by department researchers (indicated in bold).


Division of Community Oral Health


Division of Pediatric Dentistry

**RECENT NEW GRANT AWARDS**

Skeletal and Dental Quality in Adolescents with Urinary Stone Disease (USD)

The goals of this study are to compare high-resolution peripheral quantitative computed tomography measures in adolescents with USD and without; assess the dentition and its supporting tissue in adolescents with USD; and determine modifiable mediators of bone/dental quality in USD by examining their associations with urinary metabolic profiling and dietary intake.

Funding Source: Children’s Hospital of Philadelphia

Principal Investigator: Dr. Evlambia Hajishengallis, Division Chief


PERSONAL CHOICE

THROUGH THE SELECTIVES PROGRAM, STUDENTS CHOOSE AND PROPOSE TOPICS OF STUDY THAT INTEREST AND EXCITE THEM

STUDYING TO BECOME a successful dentist is rigorous and time-consuming, but throughout the process there should always be room for self-discovery and personal growth. That’s the philosophy behind Penn Dental Medicine’s Selectives — required courses, taken for credit, that are chosen by students based on personal or professional interests.

“The Selectives Program is a part of the dental school curriculum that students can control,” says Dr. Faizan Alawi, Associate Dean for Academic Affairs. “Our students have a long and rigorous day, often from 7:30 in the morning to 6 in the evening. It’s important that they have time for activities that support their own emotional well-being and interests.”

Running the gamut from seminars that expose students to professional areas outside of mainstream practice, such as veterinary or forensic dentistry, to subjects that have nothing to do with dentistry, such as music or painting, Selectives ensure that each student’s DMD degree program will be unique, with some options that reflect his or her personal interests and goals. While some students choose to use the credits to delve further into research or community service to enhance their dental resume, others use the time to escape from all things dental by relaxing and tapping into their physical or creative sides.

Each Penn Dental Medicine DMD student must complete 4.5 credits of Selectives in order to graduate, with specific requirements in the second and third year. Although there is no requirement for first- and fourth-year students, they are invited to take Selectives as well. Selectives are not graded: regular attendance is all that is necessary to pass. Registration is online on a first-come, first-served basis, with class times designed to work around academic schedules.

In the 2016–2017 academic year, more than 40 Selectives were offered, and to keep the Selectives experience timely and relevant, new Selectives are introduced each academic year. New course proposals are reviewed by Dr. Alawi; if the proposed course shows a clear benefit to students, is taught by qualified instructors, and is appropriate for its intended audience, it is usually approved.

STUDENTS TAKE THE LEAD IN COURSE DEVELOPMENT

While all members of the Penn Dental Medicine community, including faculty, staff, alumni, and students, are invited to propose new Selectives, students have recently taken the lead in introducing new courses: of the ten new offerings in the past two years, seven were proposed by individual students or student organizations (For a list of these student-proposed Selectives, see the sidebar on page 31). Students must develop a proposal for a Selectives course in conjunction with a faculty advisor.

The American Association of Public Health Dentistry (AAPHD) and the Penn Dental Medicine Multidisciplinary Initiative (PDMMI) Executive Board, both student organizations at Penn Dental Medicine, each proposed a popular Selectives course that was introduced last academic year and offered again this year.

The AAPHD’s proposed course, titled “Access to Health Care,” included four lectures on various issues of public health, including Native American public health, public health abroad, mental health, and homeless health. The lecturers include Penn...

LEFT: Dr. Faizan Alawi, Associate Dean for Academic Affairs, meets with students presenting ideas for Selectives courses.
Dental Medicine faculty and a health care advocate for the homeless in Philadelphia. Members of the AAPHD worked with Dr. Joan Gluch, Division Chief of Community Oral Health, to propose the course, which drew more than 50 participants.

“The students were drawn to this Selective because the topics correlate directly to many of our personal interests and career goals,” says Mohammad Mousavian (D’19), the AAPHD’s Journal and Education Chair. “It was empowering to hear about public health opportunities domestically and internationally, how small efforts make large impacts, and how we can contribute as health care providers.”

The PDMMI’s proposal was a seminar series called “An Integrative Approach to Health Care,” and featured Penn Dental Medicine faculty sharing their perspectives on the impact that a medical approach to dentistry can have on quality of care, success of treatment, and overall patient satisfaction. Lecture topics included dentistry in a hospital setting and dental care for HIV patients. The course was proposed by Belle Chen (D’17) and the other members of the PDMMI Executive Board.

“A handful of my classmates and I felt very strongly about the idea that dentists are an integral part of the modern health care team, and we wanted to create a learning environment where this idea could be explored further,” says Belle. “The lecture series gave us, as students, the ability to direct and guide our own education and pursue an area of interest we felt was important to us personally, as well as to network with like-minded colleagues and faculty.”

Belle’s advisor for the course was Dr. Thomas Sollecito (D’89, GD’91), Chair and Professor of Oral Medicine. “Belle and her team sought out my department because we interface with physician and nurse colleagues on a regular basis,” says Dr. Sollecito. “We worked with her and her team to refine the concept for the course and to give the students a broader perspective of how and what we do in dental medicine fits into overall patient health.”

Dr. Sollecito adds that for the last few years he has also offered a one-on-one Oral Medicine Clerkship as a Selectives option. This one-day experience gives students the opportunity to observe how he diagnoses and medically manages patients, whose concerns may be very different from those students address regularly in clinic.

“My patients have non-tooth-related problems, like oral cancers or salivary gland diseases, that most students read about in textbooks but never get to see,” he says. “This experience gives them a chance to connect what is going on in the mouth with the patient’s health overall. My hope is that when students get into practices of their own, they remember something they saw during the clerkship that might help them better treat their patients, or in fact, save their lives.”

“Topics correlate directly to many of our career goals. It was empowering to hear about public health opportunities domestically and internationally, and how we can contribute as health care providers.”

— MOHAMMAD MOUSAVIAN (D’19)

“Dentists are an integral part of the health care team; we wanted to create a learning environment where this idea could be explored further.”

— BELLE CHEN (D’17)

AN EMPHASIS ON PERSONAL WELL-BEING

While Mohammad and Belle proposed Selectives that allowed students to dive deeper into specific facets of professional dentistry, Daniel Shimansky (D’17), took a very different approach when he proposed “Mindful-based Stress Reduction (MBSR) for Dental Students” last year. Mindfulness is a state of enhanced awareness that arises by training oneself to live more consciously, vibrantly, and purposefully in the present moment.

Taught by Aurora Casta, PhD, and Marilia Marien, PhD, of Penn’s Counseling and Psychological Services (CAPS) program, the course, which consisted of eight weekly sessions and a six-hour silent retreat, focused on using techniques of MBSR, such as breath awareness, mindful movement meditation, walking meditation, and sitting meditation to help reduce the anxiety that is common in the lives of dental students.
“We live in a very distracted and chaotic time, and integrating a mindful way of being is an opportunity to bring more choice and freedom to everyday life,” says Daniel. “I wanted to offer dental students a training that would help them deal with academic pressures while in school and simultaneously equip them with the important life skill of remaining calm and resilient in the face of outside pressures.”

The registration for the MBSR course filled almost immediately, despite the fact that it is one of the most time-consuming Selectives, with two-and-a-half hour weekly sessions and practice required outside of class. “The course’s popularity reflects the need and desire among students to manage their stress,” says Daniel. While the course is not offered at the dental school as a Selective this year, a similar version is available University-wide through CAPS, and can be taken by dental students for Selectives credit.

With its emphasis on personal well-being, Daniel’s course proposal fit in perfectly with an increasing School-wide focus on wellness. As part of orientation for first-year students this academic year, the School introduced sessions dedicated to coping with stress, nutrition, counseling and psychological services at Penn, sexual violence prevention and support services, and fitness. In addition, counseling services are now available at the School through CAPS, and students have also launched a wellness club; its members take part in stress-busting activities, such as meditation, mindfulness, yoga, and other exercises, and address issues related to work-life balance, nutrition, health, and safety.

**VALUABLE PERSPECTIVES ON DENTAL CAREERS**

Selectives can also be proposed and taught by Penn Dental Medicine alumni, a dynamic that benefits students by providing a glimpse of the real world of dentistry after graduation and introducing professional networking opportunities.

For example, this year, Dr. Evan Eisler (D’15), who practices in Philadelphia and northern New Jersey, introduced AcciDental: Dental Trauma 101, for the first time. Dr. Eisler wishes he had had more exposure to dental trauma cases when he was a student, and felt that current students could benefit from an in-depth exploration of this important topic. In his Selectives course, students learn how to diagnose and treat emergent cases of dental trauma, and how to follow up on them as the patient heals. Students in his course absorb a valuable blend of Dr. Eisler’s extensive knowledge and personal experience as a recent graduate.

Whether students choose Selectives to expand their professional horizons, conquer stress, or something in between, the benefits behind this flexible part of the Penn Dental Medicine curriculum are the same: freedom to choose a course of study that is personally meaningful, and “me time” that satisfies students’ curiosity and thirst for knowledge.

“Our goal is for our students to be engaged in and enriched by their Selectives courses,” says Dr. Alawi, “and to leave with smiles on their faces.”

— By Juliana Delany
Alumni Profile: Dr. Kendra Schaefer (D’95)
Making Her Mark in Prosthodontics

The elderly Mexican woman who came to see Dr. Kendra Schaefer (D’95) in her Madison, WI, prosthodontic practice had a single goal: Get her denture fixed so she could get a job.

“She had come to Madison to care for family, and without income, she had no way to care for her partial denture, which she had glued together numerous times,” explains Dr. Schaefer. “I did her work for free, simply because that was the only thing standing in her way of self-sufficiency.”

Dr. Schaefer sees her goal in life as giving back – sharing her knowledge with dental students, providing a good job for an expanding number of employees in her practice, delivering compassionate and expert prosthodontic care to her patients, and helping to shape the practice of dentistry.

“I wake up each day thinking ‘I get to do this today.’ My job isn’t something I have to do. It’s something I want to do and it brings me joy,” she says.

GROWING A TRUSTED COMMUNITY PRACTICE

Dr. Schaefer moved to Madison to purchase her dental practice in 2010. Since then, she has devoted her time to growing her practice and establishing a workplace that employees value and patients appreciate. She presently has a team of 10 in her practice.

“What probably distinguishes us from other practices is that we like to have fun and we really enjoy working together,” says Dr. Schaefer. “Twice in one week we had patients ask if they could come work here because they could tell how much we enjoyed each other.”

That’s high praise, considering the demographic typical in prosthodontics. More than 35 million Americans do not have any teeth and 178 million are missing at least one tooth, according to data from the American College of Prosthodontists. That tooth loss, from decay and gum disease or as a result of cancer, injury, or surgery to restore facial and oral structures lost to the disease, like the roof of the mouth, soft palate or other facial prosthetics.

“It’s interesting to think back about my decision to go to dental school,” she explains. “I liked the idea of medicine, but didn’t want to be involved with people who were critically ill or dying. Then I became attracted to maxillofacial prosthodontics and cared for people who had head and neck cancer.”

Dr. Schaefer found she had a natural talent for caring for those who underwent cancer surgery. “I was their counselor, their doctor, their friend — a little bit of everything,” she says. “I spent a lot of time with my patients and got to know them and their families. Now, seven years after leaving Philadelphia, I still get cards and phone calls from my patients at Penn.”

DEEP ROOTS AT PENN DENTAL MEDICINE

Prior to establishing her practice in Madison, Dr. Schaefer was appointed to faculty and hospital positions at Penn Dental Medicine and the Hospital of the University of Pennsylvania.

“I really enjoyed my time at Penn, both as a student and as a faculty member,” she says. “Penn and Philadelphia were a good fit for me.” After earning her DMD at Penn Dental Medicine and completing her postgraduate work in prosthodontics at the University of Connecticut and a one-year fellowship in maxillofacial prosthetics at U.C.L.A., she returned to Penn Dental Medicine for a faculty position in the Department of Oral Surgery/Pharmacology. There she worked with patients after cancer wear, often affects the most vulnerable populations: the aging and economically disadvantaged.

“Our patients typically haven’t been to a dentist in a long time and are fearful. In addition, their edentulism keeps them from eating well and affects their ability to socialize,” she explains. “It’s important that the atmosphere in this practice is one that puts people at ease, breaks down barriers, and builds trust.”

MAKING TIME FOR WHAT’S IMPORTANT

Her practice and her responsibilities keep her busy enough, but she makes time to be involved in three professional undertakings important to her: philanthropic outreach, teaching and mentoring, and political activism. Dr. Schaefer volunteers with a number of different groups including the ACP in Native American communities in Oklahoma and Wyoming; Operation Smile in Nairobi, Kenya; Medical Ministry International in Honduras; and Touched Twice Dental and the Wisconsin Dental Association’s Mission of Mercy. She also participates in several leadership and study groups and teaches and lectures by invitation.

“My near-term goals are to hire an associate and expand my practice as well as travel more on missions,” she says. “But I am really involved in organized dentistry and the political aspects of our profession.”

She is especially concerned that more dental students are graduating without the opportunities to open or join a practice, going to work for dental corporations instead. “We need to find ways to help these students join or start practices, and in doing so, we’ll maintain our identity as long-term care providers and anchors in our communities.”
Unlock the Benefits

This past fall, Penn Dental Medicine’s Office of Alumni Relations & Development, conducted a campaign to encourage alumni to review and update their contact information on file with the School, and in turn, unlock the benefits of being connected to Penn Dental Medicine. Dr. Kendra Schaefer (D’95), profiled here, was among the 617 alumni who participated in the Unlock the Benefits campaign.

“I read the Penn Dental Journal every time it is published and always enjoy catching up that way,” says Dr. Schaefer. “I was happy to have the chance to update my information with alumni services when I learned about the Unlock the Benefits initiative.”

Take a minute now to be sure your email or other contact information is up-to-date. Simply email us at megcon@upenn.edu or call 215-898-8951.

Join the Alumni Interview Bio-Dental Committee

Last year, the Penn Alumni Interview Program launched the Bio-Dental Committee, engaging Penn Dental Medicine alumni in interviewing students applying to Penn Dental Medicine’s Bio-Dental Program through Penn’s College of Arts & Sciences. To date, the Committee has been a resounding success with 190 Penn Dental Medicine alumni, representing 28 states and nine countries, serving as interviewers. Chairing the group is alumna Dr. Alyssa Marlin Greenberger (D’02).

The School’s Bio-Dental Program affords those college applicants who have already decided to pursue a career in dental medicine the opportunity to complete their undergraduate studies in just three years, matriculating to Penn Dental Medicine after their junior year in college. The Bio-Dental Program works with five undergraduate schools, including Penn. This year, the Committee interviewed 177 Penn applicants from 26 states and nine countries; interviews are conducted in person or virtually.

The Committee is looking for more volunteers — register online at http://www.alumni.upenn.edu/interviews-join. To be added to the Bio-Dental Committee, alumni must write “Please add me to the Bio-Dental Committee” in the “Comments” box at the bottom of the registration form. Any alumni already registered to conduct interviews who would like to join the Bio-Dental Committee should email the request to interviews@lists.upenn.edu.

Qualified retirement plans can be the most highly taxed assets in your estate. When left to individuals other than your spouse, these assets may be subject to federal and state income and estate taxes, potentially resulting in a significant reduction in the account’s value.

If your retirement plan assets make up a sizable portion of your net worth, consider naming Penn Dental Medicine as a partial, full, or secondary beneficiary. By naming the School as a beneficiary of your IRA, 401(k), 403(b), or other retirement account, you can support the programs that mean the most to you in an efficient and tax-wise manner.

IT’S EASY! Simply request a Change of Beneficiary form from your provider.

Contact us for more information:

Elizabeth Ketterlinus
Penn Dental Medicine
240 S. 40th Street
Philadelphia, PA 19104
215-898-3328
ekett@upenn.edu
www.giving.upenn.edu/giftplanning

IN THE U.S. NEWS & WORLD REPORT 2016 BEST JOBS RANKINGS,
DENTIST WAS LISTED AT #1
2017 Alumni Awards

The Penn Dental Medicine Alumni Society is once again recognizing the accomplishments and dedication of alumni with its annual awards, presenting the Thomas Evans Achievement Award and the Alumni Award of Merit at Alumni Weekend 2017. The awards will be presented as part of a special reception celebrating the completion of the Thomas Evans Building Centennial Renaissance project, to be held at the School, Friday, May 12, 5 – 7 pm.

The Thomas Evans Achievement Award is Penn Dental Medicine Alumni Society’s highest award of recognition, honoring alumni who have shown innovation, excellence, and leadership in the profession of oral health care nationally and internationally. This year’s recipient is Dr. Adam Stabholz (GD’78), who completed his postdoctoral training in endodontics at Penn Dental Medicine.

Dr. Stabholz has had a widely accomplished career internationally in teaching and the field of endodontics. He is the immediate past Dean of Hebrew University-Hadassah School of Dental Medicine in Jerusalem, a post he held for 14 years with over four terms in the deanship, and he is currently Chairman of the Department of Endodontics there as well. Dr. Stabholz’s path to Penn Dental Medicine began with an agreement that Dr. D. Walter Cohen (C’47, D’50) initiated with Hebrew University when he was Dean of Penn Dental Medicine, to train specialists who would then return to teach at the University. Dr. Stabholz was selected to come to Penn Dental Medicine through that program, and upon completion of his specialty training, he returned to Hebrew University and started his teaching career.

Over the years, he has been instrumental in organizing and chairing committees for several international congresses held in Israel and his prominence in the endodontic community led to his election as President of the International Federation of Endodontic Associations (IFEA), an umbrella organization of endodontic societies of 28 countries. He also played an instrumental role in establishing relationships between the Hebrew University and Al-Quds University dental schools, fostering relationships between Israeli and Palestinian students that became the seeds for establishing the Alliance for Oral Health Across Borders.

Among his many honors, he received the Israel Dental Association “Yakir Harash” award, its highest award for outstanding contributions to the dental profession in Israel. He also served as the Chairman of the Scientific Council of the Israel Dental Association. An active member of Alpha Omega International Dental Fraternity, he received the Achievement Medal Award of Alpha Omega in 2012 and served as the International President of the organization in 2015. A widely published author and international lecturer, Dr. Stabholz’s current research is focused on the application of lasers in dentistry.

The Alumni Award of Merit recognizes love for and loyalty to Penn Dental Medicine, excellence in the profession of dentistry, and community involvement. The award acknowledges graduates who have maintained their ties with the School through their support of alumni activities, demonstrated leadership in the dental profession, and fostered and maintained the ideals of the School. This year’s recipients are Dr. Harold Baumgarten (D’77, GD’82) and Dr. Robert Summers (C’61, D’65, GD’67).

Dr. Baumgarten, who completed both his DMD and postdoctoral training in periodontal prosthesis at Penn Dental Medicine, has maintained strong ties to the School, first joining the faculty in 1982. He is presently Clinical Professor of Periodontics at Penn Dental Medicine, teaching in the periodontal prosthesis postdoctoral program at the School, where he previously served as the Director of Crown and Bridge and the Director of the Dental Implant Research Center.

Dr. Baumgarten has more than 30 years of experience in clinical practice, presently practicing within the Amsterdam Dental Group, Philadelphia. In addition to advanced restorative and aesthetic dentistry, Dr. Baumgarten’s practice includes advanced dental implant procedures, such as immediate implant placement with immediate restoration and CAT-scan guided surgery. A consultant to Zimmer Biomet and Southern Implants, global implant companies, Dr. Baumgarten is involved in clinical research and product development.

Active in organized dentistry, he is a member of the Omicron Kappa Upsilon Honorary Dental Society, the Matthew Cryer Honor Society, the Greater New York Academy of Prosthodontics, the American Academy of Periodontology, the Academy of Osseointegration, the American Dental Association, and the Philadelphia County Dental Society.

The second Alumni Award of Merit recipient, Dr. Robert Summers, has deep ties to Penn — earning his undergraduate degree here and completing his DMD degree and his specialty training in periodontics at Penn as well. Dr. Summers has been active in the field of periodontics and implantology for more than 30 years, estimating that he has placed more than 18,000 implants in his clinical practice and teaching careers. He presently continues to practice in Narberth, PA.

An innovator in the field, Dr. Summers developed “The Summers Osteotome Technique” in 1993, which grew to become a widely used dental implant procedure in the United States and beyond. Dr. Summers also developed the first set of surgical instruments used specifically for this technique.

Dr. Summers has lectured extensively on his surgical technique throughout the United States, Canada, Europe, South America, and the Middle East, training more than 1,100 dentists in Italy alone. Throughout his career, he has also been a featured lecturer at many universities and teaching hospitals, including among others, the University of Pennsylvania, Tufts
University Dental School, New York University, and University of Milan. Dr. Summers also served as a visiting lecturer and clinician at The University of Zurich for two years. Among his previous recognition awards are honors from the American Society of Periodontists and the American Academy of Implant Dentistry Western district.

**Penn Dental Hygiene Alumni Association Award.** Annually, the Penn Dental Medicine Dental Hygiene Alumni Association presents the Dental Hygiene Alumni Achievement Award, recognizing outstanding contributions of dental hygiene alumni to the growth and development of the profession. This year’s award will be presented at the Dental Hygiene Alumni Association meeting at Alumni Weekend 2017, to be held at the School, Friday, May 12, 2017, 11 am — 12:30 pm.

The recipient of the 2017 Dental Hygiene Alumni Achievement Award is JoAnn Gurenlian, RDH, PhD. Dr. Gurenlian is an internationally recognized leader in dental hygiene, having served as President of the New Jersey Dental Hygienists’ Association, the American Dental Hygienists’ Association, and the International Federation of Dental Hygienists. Dr. Gurenlian received her baccalaureate degree in dental hygiene from Fairleigh Dickinson University, a master’s degree in dental hygiene from Columbia University, and a doctoral degree specializing in educational leadership from the University of Pennsylvania. She is the former Chair of the Dental Hygiene Department at Thomas Jefferson University, and currently serves as Professor and Graduate Dental Hygiene Program Director at Idaho State University.

An accomplished author, Dr. Gurenlian has published more than 250 papers and co-authored the text *Preventing Medical Emergencies: Use of the Medical History*. In addition to her teaching and research activities, she practices part-time in a medical office in New Jersey.

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**South Florida Golf Outing & Alumni Reception**

In February, Penn Dental Medicine headed to beautiful Lake Worth, FL, to host a golf outing and alumni reception at The Falls Club. Over 50 alumni were in attendance.

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**Alumni-Student Networking**

October 19, the School held the 7th Annual Alumni-Student Networking Event at the Ritz-Carlton Philadelphia. Over 150 alumni and students enjoyed making connections at the annual fall event.
Ortho Alumni Day
Penn Dental Medicine’s 63rd Annual Alumni Meeting of the Department of Orthodontics was held on October 28 at the Union League of Philadelphia. It was an especially celebratory gathering this year as Penn Dental Medicine’s Department of Orthodontics marked its 100th anniversary of advancing the study and practice of orthodontics.

On the Road with Dr. Thomas Evans
Dr. Evans has been visiting alumni all over the globe, including stops in Florida, North Carolina, Massachusetts, and China! See where he will be next on Penn Dental Medicine’s Instagram (@penndentalmed) and Facebook (www.facebook.com/penndental).
What advice from a mentor have you carried with you in your career?

My mentors, Dr. Martin S. Greenberg, Dr. Thomas Sollecito and Dr. Elliot Hersh advised me to engage thoughtfully, think pragmatically, and be visionary — advice which has served me well.

What excites you most about Penn Dental Medicine today?

Penn Dental has embraced the core philosophies of The Penn Compact 2020: Inclusion, Innovation, and Impact, and under the leadership of Dean Kinane, it continues to be at the forefront of dental research, education, and clinical care. Recruitment of an increasingly diversified faculty and student body to expand academic opportunities, implementation of new learning technologies and curricular revision, and the physical modernization of the entire dental campus all make Penn Dental an exciting place to be.

Schools/degrees?


If you could have dinner with anyone who would it be? And why?

As a music enthusiast, I would have dinner with The Edge [U2], Vernon Reid [Living Colour], and Jimmy Page [Led Zeppelin], so I could “pick” the brains of these musical innovators who altered the sonic landscape in ways never before imagined.

Hobbies?

Travel, live music, sports. I especially enjoy playing and watching football with my sons, Ryan and Ethan. We are all true blue NY Giants fans.

Favorite vacation destination?

So far, my favorite destinations are London, Paris, Sydney, and Hawaii. My family and I look forward to visiting Cape Town, where my wife, Melanie, was born and raised.
1950s

Eugene D. Tunick (D’58) celebrated his 87th birthday in October with his wife, Christa, who was his assistant for 25 years. He practiced 42 years in California, Western Samoa, and Sweden, where he was on the dental faculty of the University of Gothenburg for two years. His hobbies include sound recording, classical music radio broadcasting, newsletter publishing, woodworking, photography, and laptop computer and loudspeaker repair. He and Christa now live on a hilltop in a forest above Lake Koocanusa in the Montana Rockies.

1960s

I. David Popkin (C’59, D’63) completed 50 years of practice in September 2016.

1970s

Sharen S. Paster Peters (DH’73) published her first children’s book, I’m Just a Little Someone.

Roger R. Lacoste (D’74) reports Southcoast Endodontics continues to grow. Roger’s partners include daughters Katherine Lacoste Surprenant (D’00), and Danielle Lacoste Kilmartin (D’99, GD’00) and Mark Doherty (D’03).

Roger remembers the proud history of the Penn Dental “Extractors” football team, which was undefeated during his time at Penn Dental Medicine.

1980s

Frank Celenza (GD’85) has taken over the editorial position held by the late Dr. Vincent Kokich for the periodontal textbook, “Clinical Periodontology” by Carranza/Newman. Dr. Celenza’s chapter, “Orthodontic Interactions,” will run in the 14th edition of the text. He is honored to have been selected to continue Dr. Kokich’s legacy.

1990s

Luis J. Fujimoto (D’90, GD’93) was the 2015–2016 Chairman of the Joint Commission on National Dental Examinations, American Dental Association, Chicago, Ill. He was elected Vice President of the American Association of Dental Boards, Chicago, Ill., and Secretary of the New York County Dental Society.

2000s

Ricardo Boyce (GD’03) published the article titled “Updates of Topical and Local Anesthesia Agents” in the April 2016 edition of Dental Clinics in North America.

Mark Doherty (D’03) practices in New Bedford, Mass., with Southcoast Endodontics and has been very involved with organizing Boston’s annual Yankee Dental Congress. Mark also serves as Chief Dental Officer and Executive Director for a mobile dental service, Commonwealth Mobile Oral Health Services, a program launched in the early 80’s by his father Mark J. Doherty (D’73) to meet the needs of disadvantaged children and adolescents.

2010s

Alison Baraty (D’12) and Benjamin Mancia (D’12) tied the knot on October 15, 2016 in Greenville, SC. Their relationship started during their 2nd year of dental school as they were navigating through GRD and pharmacology. They owe their meeting to the rigorous training at Penn Dental!

Brigitte White (D’07) has written a series of children’s dental health books. She visited Penn Dental Medicine in March 2017 to speak with the School’s pediatric residents.

Aws Al-Darkazali (D’13) and his wife, Ruth, welcomed their son, Ari, into the world on November, 29, 2016. His nickname is Uri after our very own Dr. Uri Hangorsky!

Share Your News
Submit a Class Note to www.dental.upenn.edu/classnotes
Or, you can send your submissions to:
Robert Schattner Center
Penn Dental Medicine
Office of Development and Alumni Relations
240 South 40th Street
Philadelphia, PA 19104–6030
With great respect and admiration, the Penn Dental Medicine community warmly remembers and honors Dr. Robert L. “Slick” Vanarsdall, Jr. (GD’72, GD’73), who passed away on Jan. 1, 2017.

Dr. Vanarsdall was a beloved and highly accomplished member of the Penn Dental Medicine faculty for 45 years. He served as Chair of the Department of Orthodontics from 1982 – 2011 and Director of the Postdoctoral Orthodontics Program from 1981–2010. Until his death, he remained Professor and Director of the Orthodontics/Periodontics Postdoctoral Program, which he formed in 1975 (it remains the only ADA-approved program of its kind).

Dr. Vanarsdall completed his postdoctoral training in both orthodontics and periodontics at Penn Dental Medicine before joining the faculty. He will be long be remembered for his leadership and many contributions to the fields of orthodontics and periodontics, along with his unyielding commitment to his students and patients.

The Dr. Robert Vanarsdall Fellowship Fund was established in his honor in 2016, when Penn’s Department of Orthodontics celebrated its 100th Anniversary. Contributions to this Fund can be made in his memory at www.dental.upenn.edu/give (select the Dr. Robert Vanarsdall Fellowship Fund). A memorial ceremony honoring his contributions to the field of dental medicine and his great dedication to Penn Dental Medicine was held at the School on March 8, 2017.

**IN MEMORIAM**

**REMEMBERING MEMBERS OF THE PENN DENTAL MEDICINE COMMUNITY**

**Dr. Robert L. “Slick” Vanarsdall, Jr. (GD’72, GD’73)**

Florence Gretchen Iehle Worsley (DH’40)
Bethlehem, PA; September 25, 2016

Anita Vegliante Lanzoni (DH’41)
Cheshire, CT; August 25, 2016

Walter Areinoff (C’41, D’43)
Boyton Beach, FL; December 7, 2016

Jeannette B. Pochron (DH’45)
Seymour, CT; January 25, 2017

Mervin P. Eisenberg (C’43, D’46)
Whippany, NJ; September 29, 2016

Mary Harder Long (DH’46)
Wartown, CT; September 11, 2016

H. Martin Deranian (D’47)
Shrewsbury, MA; September 26, 2016

Harry G. Keller (D’47)
Wyomissing, PA; October 28, 2016

Jean Mahony Cording, (DH’48)
Worton, MD; February 27, 2016

Robert L. Schattner (D’48)
Bethesda, MD; January 29, 2017

Anthony J. Dijohn (D’49)
Baton Rouge, LA; September 14, 2016

George A. Krikos (D’49)
Denver, CO; October 19, 2016

M. Alpin Liedtka (DH’49)
Pennington, NJ; December 8, 2016

Edward J. Bowser, Jr. (D’51)
York, PA; March 6, 2016

Eugene V. Kasper (D’52)
Pinehurst, NC; November 23, 2016

John H. Duffy (D’53)
Hopkinton, MA; December 24, 2016

James N. Klaiber (D’53)
Liverpool, NY; September 11, 2016

Donald N. Stryker (D’53)
Kennett Square, PA; December 24, 2016

Thomas O. Sweet (D’53)
Syracuse, NY; February 10, 2017

Robert J. Fischer (D’54)
Skillman, NJ; October 16, 2016

Sheila Sutland Pakula (DH’54)
Baltimore, MD; November 29, 2016

Frank T. Christian (D’56)
Virginia Beach, VA; February 4, 2017

Edmund B. Coughlin (D’56)
Manlius, NY; February 24, 2017

Alfred F. Kucaba (C’51, D’56)
Miami, FL; March 13, 2016

Rowland A. Hutchinson (D’58)
Louisville, KY; November 13, 2016

Thomas J. Heitzman (D’59)
Pennington, NJ; December 7, 2016

Francis J. Sobkowski (D’59, G’59)
Edwardsville, IL; February 10, 2017

Ray K. Drum (D’60)
Exton, PA; February 1, 2017

Stanley Frommer (D’61)
Santa Rosa, CA; March 13, 2016

James G. Kring (D’61)
The Villages, FL; January 6, 2017

Jerome J. Blum (D’62)
Elkins Park, PA; September 27, 2016

Richard T. Buczkowski (D’62)
Thornsdale, PA; September 25, 2016

John Cuozzo (D’62)
Norfolk, VA; March 23, 2017

Lester F. Greenberg (GD’63)
Princeton, NJ; August 27, 2016

Daniel P. Barash (D’67)
Atlanta, GA; July 22, 2016

W. Ronald Harris (GD’68)
Louisville, KY; August 5, 2016

Steven W. Seitchik (D’68)
Bala Cynwyd, PA; November 27, 2016

Robert L. Vanarsdall, Jr. (GD’72, GD’73)
Villanova, PA; January 1, 2017

Roger P. Rundbaken (D’76)
Glen Mills, PA; November 23, 2016

Diane Costas Bokron (DH’77)
Wethersfield, CT; February 25, 2017

Cyril I Evian (GD’79, D’81)
King of Prussia, PA; January 26, 2017

Richard J. Auferheide (D’92)
Stevensville, MD; February 2, 2017

Gayathri S. Konchady (D’14)
Acworth, GA; March 10, 2017

**Editor’s Note:** Martin J. Greenwald (D’57) is alive and well. We apologize for the error in the Fall 2016 issue.
## 2017 Calendar

### Upcoming Events & Programs

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<td>Senior Farewell</td>
<td>CDE: Quarterly TMJ Center Seminar Series</td>
<td>CDE: Ortho Alumni Day</td>
<td>Greater NY Dental Meeting Alumni Reception</td>
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<td>The Bellevue, Philadelphia PA</td>
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<td>Penn Dental Medicine Research Day 2017</td>
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<tr>
<td>Penn Dental Medicine</td>
<td>Irvine Auditorium, Philadelphia PA</td>
<td>San Francisco, CA</td>
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<td>MAY 12-13 2017</td>
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<tr>
<td>Alumni Weekend 2017</td>
<td>Class of 2021 White Coat Ceremony</td>
<td>CDE: Quarterly TMJ Center Seminar Series</td>
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<tr>
<td>Penn Dental Medicine</td>
<td>Irvine Auditorium, Philadelphia PA</td>
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<td>MAY 15, 2017</td>
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<td>OCTOBER 18, 2017</td>
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<tr>
<td>Commencement 2017</td>
<td>SEPTEMBER 9–12, 2017</td>
<td>CDE: Penn Stem Cell and Regenerative Dentistry Conference</td>
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<td>Irvine Auditorium, Philadelphia PA</td>
<td>AAP Alumni Reception</td>
<td>Penn Dental Medicine</td>
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<tr>
<td>SEPTEMBER 30, 2017</td>
<td>CDE: Biofilms, Microbiomes and Oral Diseases: Challenges and Future Perspectives</td>
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<td>Beijing, China</td>
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<th>JUNE</th>
<th>OCTOBER 20–21, 2017</th>
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<tr>
<td>JUNE 15–17, 2017</td>
<td>AAP Alumni Reception</td>
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<tr>
<td>CDE: International Academy for Adhesive Dentistry 2nd Biennial Meeting</td>
<td>Boston, MA</td>
<td>Greater NY Dental Meeting Alumni Reception</td>
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<td>Penn Dental Medicine</td>
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<td>The Penn Club, New York, NY</td>
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<td>JUNE 17, 2017</td>
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<tr>
<td>American Dental Hygienists Association Annual Session Alumni Reception</td>
<td>CDE: Biofilms, Microbiomes and Oral Diseases: Challenges and Future Perspectives</td>
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<td>The River Club, Jacksonville, FL</td>
<td>Beijing, China</td>
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<td>JUNE 25–30, 2017</td>
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<tr>
<td>CDE: Penn Periodontal Conference 2017</td>
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<td>Penn Dental Medicine</td>
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*Editors Note: CDE = Continuing Dental Education*

Learn More...

Visit [www.dental.upenn.edu/events](http://www.dental.upenn.edu/events) or call 215-898-8951 for information on alumni events.

Visit [www.dental.upenn.edu/cde](http://www.dental.upenn.edu/cde) or call 215-573-6841 for information on continuing dental education programs.
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Penn Dental Medicine will host two, multi-day, continuing education symposia in June.

**JUST BOND IT: 2ND BIENNIAL MEETING OF THE INTERNATIONAL ACADEMY OF ADHESIVE DENTISTRY**

*June 16-17, 2017*

Showcasing cutting-edge science in adhesive dentistry and its applications in all areas of esthetic dentistry. Poster presentations and a consensus conference will supplement a program of international speakers.

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