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IN REMEMBRANCE

HONOR ROLL OF DONORS
Healthcare delivery, education, and research are being impacted dramatically by technological advances, and NYU College of Dentistry is continually adapting to meet the needs of our students, patients, and the broader community.
In this issue of *Global Health Nexus*, we lead off with coverage of NYU dental researchers whose discoveries are changing the ways in which we view ourselves and our environment.

Highlights include two new papers by Rodrigo Lacruz, assistant professor of basic science and craniofacial biology, which advance understanding of the morphological processes that distinguish Neanderthals’ faces from modern humans’, and of the causes and potential solutions to genetic illness affecting enamel development, respectively. In another recent paper, Timothy Bromage, professor of biomaterials, provides the first experimental evidence of a new multidien chronobiological rhythm responsible for regulating the pace of growth and development in large mammals.

Anna Di Gregorio, associate professor of basic science and craniofacial biology, has published a study that uncovers molecular switches that turn on gene expression during spine development. And a study coauthored by Bradley Aouizerat, professor of oral and maxillofacial surgery and deputy director of the Bluestone Center for Clinical Research, has revealed a gene variant that could point a way to medications that prevent HIV that has entered the body from establishing infection.

In “Technology in the Service of Teaching & Learning,” Cristián Opazo, NYU College of Dentistry senior instructional technologist, provides an overview of the philosophy and objectives which guide the integration of educational technologies into the NYU dental curriculum. John McDevitt, professor and chair of the Department of Biomaterials, and developer of the “programmable bio-nano-chip” technology, also known as "lab on a chip," explains the value to patients of health-connected, biomarker-driven tests that have the potential to reduce costs radically, decrease wait time for patients in need of regular health monitoring, and lead to powerful, cloud-connected diagnostic instruments for personalized wellness tracking.

In a faculty conversation, Elena Cunningham, clinical associate professor of basic science and craniofacial biology, and Johanna Warshaw, clinical assistant professor of basic science and craniofacial biology, discuss their pioneering use of a new online learning technology, known as Cerego, to help students prepare for Part I of the National Board Dental Examination. Saj Arora, Class of 2017, spotlights "Dental Hackathon," a weekend-long invention marathon dedicated to addressing and finding a solution to a specific problem or challenge in oral health care. Saj’s article demonstrates an attempt at “disruptive innovation,” a process that harnesses new technologies to address complex challenges.

Along with these technologically based solutions to healthcare and learning challenges, NYU Dentistry has adopted a number of new technologies designed to foster more patient-centered care. These include an electronic health record (EHR); MARTTI,® an on-site, Skype-powered, interpretation and translation service; patient electronic check-in kiosks; EasyMarkit, an automated messaging service to remind patients of upcoming appointments; "Simon,” a medical simulation manikin used to practice CPR and an automated external defibrillator used to help improve patients’ safety and well-being while receiving dental care; and electronic operatory monitors to facilitate the patient appointment process.

This issue of *Global Health Nexus* also features updates on the contributions of our faculty, students, and staff to the College’s educational, outreach, and philanthropic programs, along with their scholarly, clinical, and community service achievements. I hope that you enjoy the issue as much as we enjoy bringing it to you.
An international research team, led by Dr. Rodrigo S. Lacruz, assistant professor of basic science and craniofacial biology, published a study in December 2015 describing for the first time the developmental processes that differentiate Neanderthal facial skeletons from those of modern humans.

Dr. Lacruz’s research team showed that the Neanderthals, who appeared about 200,000 years ago, are quite distinct from Homo sapiens (humans) in the manner in which their faces grow, adding to an old but important debate concerning the separation of these two groups. The paper, “Ontogeny of the Maxilla in Neanderthals and their Ancestors,” was published in Nature Communications.

“This is an important piece of the puzzle of evolution,” says Dr. Lacruz, a paleoanthropologist and enamel biologist. “Some have thought that Neanderthals and humans should not be considered distinct branches of the human family tree. However, our findings, based upon facial growth patterns, indicate they are indeed sufficiently distinct from one another.”

The study found that in Neanderthals, facial bone-growth remodeling — the process by which bone is deposited and reabsorbed, forming and shaping the adult skeleton — contributed to the development of a projecting (prognathic) maxilla because of extensive deposits by osteoblasts without a compensatory resorption — a process they shared with ancient hominids. This process is in stark contrast to that in human children, whose faces grow with a counter-balance action mediated by resorption taking place, especially in the lower part of the face, leading to a flatter jaw relative to Neanderthals.

“Understanding the process of facial ontogeny can help explain the variation in facial size and shape among modern humans,” says Dr. Lacruz.
Demonstrating the cellular mechanism for transporting calcium in the formation of dental enamel cells, the research of Dr. Rodrigo S. Lacruz and team may benefit people who suffer from abnormal tooth enamel due to mutations in the genes.

An international team of researchers led by Dr. Rodrigo S. Lacruz, assistant professor in the Department of Basic Science and Craniofacial Biology, has published a paper in *Scientific Reports* (5:15803) titled “Dental Enamel Cells Express Functional SOCE Channels,” which reports the results of a study showing for the first time the mechanism of calcium transport essential in the formation of dental enamel.

The team found that the main calcium influx pathway involved in the mineralization of enamel [called the CRAC (Ca2+ release-activated Ca2+) channel — the main type of SOCE (Store-operated Ca2+ entry) channel] is critical for controlling calcium uptake, which is necessary for the development of tooth enamel. Despite calcium’s central role in the development of enamel, it was not previously understood how it was transported from the bloodstream to the zone where enamel crystals grow.

The finding has important implications for people who suffer from abnormal tooth enamel due to mutations in the genes that control the activity of these channels. “One of the main characteristics of enamel is its durability, which it owes to the particularly high amount of calcium it contains as well as other minerals,” says Dr. Lacruz. “But calcium has to reach the area where crystals are forming. If this action is impeded, which happens when there are mutations in the genes that form the core of the CRAC channel, enamel is severely affected.” This study demonstrates a physiological mechanism for calcium influx in enamel cells and shows how it can be modulated.

According to Dr. Lacruz, this new frontier in enamel biology brings closer to reality the possibility of regenerating enamel, which in the long run will benefit people who suffer from enamel-formation disorders.
A study by Dr. Timothy Bromage and team links life’s milestones to a non-circadian biological rhythm in teeth — providing the first experimental evidence of a new multidien chronobiological rhythm responsible for regulating the pace of growth and development in large mammals.

The top canonical pathways identified by IPA are: 5-day growth rhythm • Proline Biosynthesis II (from Arginine) • tRNA Charging • Citrulline Biosynthesis • Glycine Biosynthesis III • Superpathway of Citrulline Metabolism 5-day degradation rhythm • Adenine and Adenosine Salvage III • Sucrose Degradation V (Mammalian) • Purine Ribonucleosides Degradation to Ribose-1-phosphate • Adenosine Nucleotides Degradation II • Purine Nucleotides Degradation II (Aerobic)
The circadian rhythm, or “daily biological clock,” regulates the pace of mammalian development, and forms the basis of a growth paradigm that has been the focus of intense molecular, cellular, pharmacological, and behavioral research for decades. But then, why do rats and humans, who share this clock, mature at different rates?

“IT is impossible to explain enormous variations in age at maturity and other developmental milestones just by looking at differences in this daily rhythm,” says Dr. Timothy Bromage, professor of biomaterials. “This suggests that another biological timing mechanism is at work.”

Through blood plasma metabolomics and genomics, Dr. Bromage and his team have, for the first time, characterized another biological timing mechanism operating on multi-day (multidien) rhythms of growth, originally identified in dental enamel as enigmatic long-period growth lines. The findings were published in January in the online journal PLOS ONE.

In their study of the domestic pig, “The Swine Plasma Metabolome Chronicles 'Many Days' Biological Timing and Functions Linked to Growth,” the researchers found that blood plasma metabolites and RNA drawn from 33 domestic pigs over a two-week period oscillate on a five-day rhythm. Light microscope investigation also revealed a corresponding five-day rhythm in the pigs’ tooth enamel. Compared to one-day rhythm in rats, pigs grow more slowly.

“These findings provide new insight into biological processes regulating growth and controlling gestation length, weaning, age at maturity, and other developmental milestones,” says Dr. Bromage. “We believe this to be a key component of what regulates species’ life history evolution.”

“We believe this to be a key component of what regulates species' life history evolution.”
College of Dentistry basic science researchers, led by Dr. Anna Di Gregorio, uncover molecular switches that turn on gene expression during spine development.
A new study by researchers in the Department of Basic Science and Craniofacial Biology sought to understand how gene expression is initiated in the notochord, the evolutionary and developmental precursor of the backbone.

The study, "Brachyury, Foxa2 and the cis-Regulatory Origins of the Notochord," published in PLOS Genetics, analyzes regions of DNA that switch on gene expression in the notochord, called cis-regulatory modules (CRMs, or enhancers). The paper presents a systematic analysis of CRMs that share the distinctive property of turning on gene expression in the notochord.

Dr. Anna Di Gregorio, associate professor of basic science and craniofacial biology and lead author, used as a model system a marine organism, Ciona (or "sea squirt"), because it possesses a tractable notochord and a simplified genome, where CRMs can be found more easily. She notes that systematic studies of CRMs are difficult and time-consuming in most chordates, and notochord CRMs have yet to be characterized in humans. Over the past decade, using Ciona, the lab has amassed the largest collection of fully characterized notochord CRMs in any chordate.

The researchers characterized 14 Ciona notochord CRMs (see illustration), isolated the minimal sequences necessary for their function, and then compared the structure of the Ciona notochord CRMs to the few fully characterized notochord CRMs identified in other chordates.

"While we were analyzing the CRMs of Ciona, we discovered that they are similar to notochord CRMs that had been previously identified in mice and zebrafish," said Dr. Di Gregorio. "This finding indicates that our research in Ciona extends to other chordates, and most likely humans."

In further research, Dr. Di Gregorio and her team plan to translate these results to the human genome, where studies of mutations in CRMs, and particularly in notochord CRM, are still in their infancy.

“While we were analyzing the CRMs of Ciona, we discovered that they are similar to notochord CRMs that had been previously identified in mice and zebrafish,” said Dr. Di Gregorio. “This finding indicates that our research in Ciona extends to other chordates, and most likely humans.”

MOLeCULAR “SWITCHES” OF GENE EXPRESSION IN THE CIONA NOTOCHORD

Commonly used electrical switches (background, left) are compared to the molecular switches (cis-regulatory modules, or CRMs) identified in this study (background, right). The horizontal bars represent the 14 CRMs identified in this study, and the colored geometric shapes depict binding sites for transcription factors that are required for these molecular switches to function. The image in the center shows a Ciona embryo, with the notochord highlighted in red.
The lead story (basic science category) on the NIDA (National Institute on Drug Abuse) website, on its “NIDA Notes” for March 2016, features a collaborative study by 16 investigators, including Dr. Bradley E. Aouizerat, professor of oral and maxillofacial surgery and deputy director of the Bluestone Center for Clinical Research. The study, “Novel Genetic Locus Implicated for HIV-1 Acquisition with Putative Regulatory Links to HIV Replication and Infectivity: A Genome-Wide Association Study,” published March 18, 2015, in *PLOS ONE*, identified a gene variant that appears to partially shield people whose behaviors entail high risk for exposure to human immunodeficiency virus (HIV) from being infected. According to “NIDA Notes,” the finding could point a way to medications that prevent HIV that has entered the body from establishing infection.

Lead author Dr. Eric O. Johnson at RTI International and colleagues found that participants in the two large study cohorts who possessed the G allele of a single-nucleotide polymorphism in the *FRMPD1* gene (rs4878712) had modestly lower odds of acquiring HIV infection than those with alternative alleles, after accounting for behavioral and environmental risk factors.

“*Our hope is that others will replicate this preliminary finding and that this approach will lead to the discovery of additional risk alleles for HIV acquisition.*"
All participants in each cohort — the Urban Health Study (UHS: 3,136 males and females), and the Women's Interagency HIV Study (WIHS: 2,533 females) — were considered to be at high risk for HIV infection related to their sexual, sexually transmitted disease, or drug-use histories. Using genome-wide association analysis, the researchers first established the gene-infection association with data from the UHS cohort and then replicated their finding in the WIHS cohort.

Dr. Aouizerat, who leads the WIHS cohort, commented, “The identification of host genes that influence HIV infection and progression has had some early successes; e.g., CCR5 (Chemokine [C-C Motif] Receptor 5) and the subsequent development of a CCR5 receptor antagonist that inhibits HIV entry into cells. However, subsequent progress has been slow due in part to the lack of appropriate control groups, which, thanks to Dr. Johnson’s efforts, we have now addressed. Our hope is that others will replicate this preliminary finding and that this approach will lead to the discovery of additional risk alleles for HIV acquisition.”

The researchers suggest that the pathway linking the FRMPD1 gene variant to reduced risk for HIV infection involves altered expression of two genes, FBOX10 and BCL2. They found that the G allele of rs4878712 was associated with lower expression of the gene FBOX10, and that lower FBOX10 expression was associated with higher BCL2 expression. Greater expression of the BCL2 gene leads to higher levels of Bcl-2 protein, which other studies have shown to lower HIV replication during acute infection, and thereby reduce the likelihood of transition to persistent infection.

Although previous studies have estimated that half of a person’s risk for acquiring HIV infection depends on his or her genes, rs4878712 is only the second gene variant that researchers have associated with risk for infection. The finding is most significant for the insight it may provide into biological mechanisms that can facilitate or impede persistent HIV infection and could become targets for medications.
ADAPTING: RESEARCH IN FOCUS

THE ART of SCIENCE

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JDR Cover Features Research by NYU Dentistry’s Dr. Brian Schmidt, Dr. John Dolan, and Collaborators at NIH and Abroad.

The February 2016 issue of the *Journal of Dental Research* features a collaborative study by 11 investigators, including NYU Dentistry faculty members Dr. Brian Schmidt and Dr. John Dolan. Dr. Schmidt is professor of oral and maxillofacial surgery and director of the Bluestone Center for Clinical Research and the NYU Oral Cancer Center, and Dr. Dolan is research assistant professor of oral and maxillofacial surgery and associate director of research and development for the Bluestone Center. The research was conducted with collaborators at the National Institutes of Health (NIH) and with scientists abroad.

The report, “Conditional TNF-a Overexpression in the Tooth and Alveolar Bone Results in Painful Pulpitis and Osteitis,” describes the effect of tumor necrosis factor (TNF-a) on immune homeostasis within the tooth pulp. TNF-a is a proalgesic cytokine that is commonly expressed following tissue injury. This cytokine can act as an initiating mediator high in the molecular cascade that can generate pain. Researchers sought to determine whether overexpression of this inflammatory mediator alone could promote pulpitis.

The researchers first sought to confirm that patients with tooth decay exhibit increased expression of TNF-a as had been suggested by earlier studies. After establishing a link between TNF-a expression and pulpitis, they produced a transgenic mouse model in which TNF-a is overexpressed. These TNF-a mice were bred with a dentin matrix protein mouse strain (DMPI) to generate mice with overexpression of TNF-a in the tooth pulp and bone. In this manner, the researchers were able to produce a novel mouse model of pulpitis and osteitis (inflammation of the soft tissue inside teeth and inflammation of bone, respectively). The researchers then sought to identify subsequent molecular changes located in primary afferent nociceptors that innervate teeth and bone. These molecular changes are thought to generate inflammatory pain. The researchers concluded that the inflammatory mediator TNF-a can activate other protein kinases, which, in turn, modulate the sensitivity of pain-sensing ion channels in primary afferent neurons. This molecular cascade could promote peripheral sensitization and hypersensitivity to painful stimuli.

Dr. Schmidt described the importance of the work in the context of tooth pain. “This study seeks to refine our understanding of the precise biological mechanisms responsible for inflammatory pain. Our collaborators at NIH generated a novel transgenic mouse model that morphologically mimics pulpitis and osteitis. The oral function of the animals was then measured over many weeks with an orofacial pain assay that John Dolan and I invented several years ago for our investigation of oral cancer pain. The work reported this February has taken us one step closer to understanding the cause of most forms of oral pain. Perhaps the most exciting aspect of this work is the newly characterized transgenic model itself. This model can be employed in future work designed to investigate dental inflammatory pain; anyone who has ever had a toothache understands the need for improvement in this area.”
TECHNOLOGY
in the service of
TEACHING &
LEARNING

GLOBAL HEALTH NEXUS
This is a true story. It took place about a year ago in a conference room in our new building at 433 First Avenue. A dozen first-year dental students volunteered to be part of a focus group assembled to collect feedback on a series of video lectures we had created for one of their courses. In these videos, instructors lecture directly to the camera while reading their scripts in front of a teleprompter.

Deep into our conversation, the following exchange occurred:

**MODERATOR:** We had the option of video recording the instructors while reading scripted lectures or having them improvise their speech right in front of the camera. We decided to go with scripts because they come up being shorter, cleaner, and highly precise.

**STUDENT:** Yes, I understand that. But when they speak to the camera instead of to a live classroom audience, that’s just not the way people explain things in the real world.

I was the moderator of the conversation that day. Though I was eager to hear what students had to say about the pilot, I did not expect to get feedback as specific and indisputable as that. A class-wide survey reinforced the point: The lectures were perceived by some as “sterile” or “flat,” suggesting that no matter how precise and error-free our video scripts were, they weren’t as effective, pedagogically speaking, as we had intended them to be. What to do next?

I am an instructional designer, which is a relatively new profession within higher education and other areas. Instructional designers work in corporations developing training programs, in educational startups implementing learning environments, and in museums designing interactive installations. The common thread is that we focus on creating effective practices for teaching and learning. Instructional designers apply fundamental pedagogical principles to the development of educational materials that are appropriate for particular audiences.

More often than not, our work involves the integration of digital technologies into existing curricula.
Even before joining the College of Dentistry, I had been working with NYU teaching faculty to enhance their lessons, visual materials, and assessments through innovative practices that aim to engage the 21st century learner.

We live in exciting times in higher education. The current state of affairs has been described in the literature using terms such as crisis, revolution, and new beginning, all of which, whether having a positive or a negative connotation, imply dramatic change. Regardless of one’s role within higher education, the feeling of excitement associated with this change is palpable.

One change relates to the role of digital technologies in the teaching and learning process at NYU College of Dentistry today, and as Dean Bertolami has stated, this change clearly aligns with the strategy of NYU as a whole. Ever since NYU positioned itself as a global university, it has taken major steps toward the promotion and support of technology-enhanced education. This alignment can be described as follows: Everything we do at NYU Dentistry, and all around the University, seeks to create the best possible environment for fostering student learning. Moreover, since our objective is to integrate digital technologies into the practice of teaching in the 21st century, we need to have a clear purpose and a well-defined plan to achieve it. The practice of instructional design emphasizes the implementation of best practices; that is, evidence-based interventions that enable educators to achieve specific learning outcomes.

An example of a major curricular project that we recently completed is the full redesign of “Building Blocks of Life,” a first-year course in biochemistry, which we converted from a traditional face-to-face lecture format to a fully online course, the first of its kind in the DDS program. This entailed taking a bird’s-eye look at the whole content of the course and deciding what types of digital components would best convey each segment of content. This process involved the storyboarding, design and production of computer animations, interactive online assessments, and discussion boards designed for students to enable them to examine the course content in a comprehensive manner.

The main objective of this project was to decompress the DDS curriculum, which is extremely demanding for our students. By converting the classroom lectures into specifically designed online lessons, we enabled students to do their coursework independently, without losing either their individual interaction with the instructors — who were available for questions both online and in person — or with the rest of their class.

It was essential that this project address the challenge of students sometimes being unable to connect the theoretical concepts of a course, in this case, biochemical processes, to the day-to-day reality of clinical practice. That is why in creating the teaching materials...
for this course, we placed special emphasis on delivering the course content in a context-specific fashion: We created interactive clinical case presentations where students were presented with realistic clinical scenarios, and were then required to analyze the relevant clinical data and use their knowledge of the fundamentals of biochemistry to establish a proper diagnosis.

So, what did we learn from that student’s insightful comment at our focus group? We learned at least three things. First, never underestimate the opinion of a first-year dental student at NYU Dentistry: Our students are intellectually well-rounded, engaged, and sharp as tacks. Second, a pilot is a pilot: It is built into the production process so that we can learn what works and what doesn’t, and so that we can fix things by addressing the feedback we get from users at every step of the way. Third, and most important: Good learning, which is to say, learning that is profound, transformational, and lasts a lifetime, must include an emotional component. The learner needs to care about the subject matter. Simply put, learning that engages us emotionally has a better chance of remaining with us for a long time.

In the particular case of the instructors lecturing to the camera, we decided to give them a break from the spotlight and instead have their scripts delivered by a professional voiceover artist as the background for a series of original 2D and 3D animations created by our team of graphic artists. As the end-of-year course survey clearly showed, students thought that the visual animations were better at communicating concepts than a video of a lecturer in a recording studio. And this fundamental change in the production of the digital assets for this course came from a suggestion by a first-year student. That says a lot.

The integration of educational technologies into the NYU Dentistry curriculum does not end there. In partnership with educational companies and our own technical staff, our faculty are researching and piloting a series of technology tools, including a secure online testing environment, a personalized adaptive learning engine, and enhanced learning management systems, all of which aim to deliver the best learning experience our students can have during their formative years at the College. ■

“We live in exciting times in higher education. The current state of affairs has been described in the literature using terms such as crisis, revolution, and new beginning, all of which, whether having a positive or a negative connotation, imply dramatic change.”
This article aims to expand awareness of the new medical microdevice technology that is being developed and validated by the McDevitt laboratory at NYU College of Dentistry, and of its relationship to dentistry's role in improving public health.
SCREENING FOR DISEASE IN THE DENTAL POINT-OF-CARE SETTING

Dentistry has a long tradition of fostering preventive care and health promotion. The remarkable improvements in oral health over the past half-century reflect the strong science base for prevention of oral diseases that has been developed and applied in the community, in clinical practice, and in the home, including the use of fluoridated water and the promotion of regular dental cleanings. The overwhelming success of dental research in the last century led to widespread adoption of community water fluoridation in the United States as a high-benefit, low-cost preventive method that benefits all sectors of US society. Research activities within dentistry have also led to dramatic changes and paradigm shifts in terms of professional practice. Dentistry can credit such initiatives for its ahead-of-the-curve role in health promotion, risk assessment, disease prevention, treatment planning, treatment therapeutics, restorative materials, and predictable clinical outcomes. Other examples of preventive practices employed by dentists include smoking cessation therapy, alcohol screening, detection of facial lesions, undiagnosed diabetes, and hypertension, obesity management, sleep apnea treatment, screening for osteoporosis and arthritic disorders, HIV testing, and blood pressure monitoring.

Notably, more than 30 million people in the US go routinely to a dentist, but lack a general healthcare provider, making the dental visit the most frequent US healthcare contact and the ideal venue for screening and management of both oral and systemic diseases at the point-of-care (POC).1,2

THE GREAT INTEGRATION CHALLENGE

NYU Dentistry has contributed significantly to the development of effective health management methodologies by placing

by

John T. McDevitt, PhD
Professor and Chair,
Department of Biomaterials
NYU College of Dentistry
a strong emphasis on building bridges among the basic sciences, engineering, medicine, and dentistry and is now poised to play a greater role in this area than ever before.

Clinical analysis remains one of the most important frontiers in measurement science, as an ever-increasing understanding of living systems places evolving demands on the bioanalysis laboratory. One important trend is a decrease in component size toward miniaturized designs. For clinical systems, these efforts can lead to medical results at the POC; i.e., chairside, bedside, ambulance, and other locations beyond the home. The absence of a standard, universal, and modular analysis technology that is mass scalable and delivers lab-quality results motivates sustained efforts in this area. Furthermore, while new chip-based sensors show strong potential for accelerating our ability to gather new biological insights, the discovery, validation, and approval of new biomarkers continues to occur along a decade-long timeframe, as evidenced by the dismal rate of approval of protein biomarkers by the US FDA (about one biomarker per year).

In an attempt to overcome these limitations, the McDevitt laboratory has pioneered the development of new medical microdevice technology now described as the programmable-bio-nano-chip (p-BNC) platform technology.3-38

BRIDGING THE GAPS

The p-BNC technology was developed over the past decade with sponsorship from NIDCR through U-01 (10 years) and NIDCR Grand Opportunity (3 years) mechanisms. The p-BNC platform exists in two configurations, both of which exploit the same disposable footprint and both use image-based data extraction methodologies. The common mechanical and optical considerations hereby afforded provide significant points of leverage for the efficient development of new diagnostic tests. The first mini-sensor configuration uses a supported bead microarray and enables analysis of soluble targets. The second chip configuration utilizes a supported membrane filter suitable for capture of cells and bioparticles.

Both sensors function as efficient biomarker...
capture devices (soluble and cellular) and enable a readout on a high-performance yet affordable imaging system. The imaging system has been adapted from digital camera- and smart phone-related technologies. Collectively, the two p-BNC sensor ensembles form a modular platform system that demonstrates one of the largest forms of analyte diversity for any lab-on-a-chip system available to date. Importantly, these chip sensor systems have been the subject of major clinical trials, producing first-of-a-kind data sets.

These two distinct p-BNC assay systems are both packaged within a disposable, single-use injection-molded plastic “labcard” comprised of a network of microfluidic components for the complete transfer and processing of biological samples. These sensors provide quick and accurate information on cellular, genomic, or proteomic biomarkers of disease at the POC. All assay steps are conducted without human intervention (think glucometer interface) within the labcard that sits within an analyzer equipped with light-emitting diodes (LEDs), complementary metal–oxide–semiconductor (CMOS) image-based sensors, and mechanical actuators. This approach eliminates the need for standard lab infrastructure. The assay is performed through a sequence programmed into the controller of an analyzer with control over the flow rate, incubation time, and reagent wash achieved by the actuation of stepping motors that direct the fluid flow through the depression of fluid pouches. The sample is directed to an on-chip waste reservoir, and the entire biochip can be discarded as solid waste after the assay, facilitating biohazard waste management.

These mini-detection ensembles with multiplexed and multiclass (cellular, genomic, proteomic) capabilities have been customized for cancer diagnostics, cardiovascular disease, saliva-based diagnostics, infectious diseases, drugs of abuse detection, and cell-imaging systems. The oral cancer and the dental chair cardiac wellness screening tests developed by the McDevitt laboratory are described below.

### THE NEW “CYTOLOGY-ON-A-CHIP” FOR MANAGEMENT OF ORAL CANCER PATIENTS

Oral cancer, largely oral squamous cell carcinoma (OSCC), is a global health problem afflicting over 300,000 people each year. In the US alone, more than 41,000 new cases and nearly 8,000 deaths occur annually, representing about 3 percent of all cancers in men and about 2 percent in women. The high mortality associated with OSCC derives from the fact that initial identification and biopsy typically occur when the disease is advanced. Similarly, despite significant advances in surgical procedures and treatment, the long-term prognosis for patients with OSCC remains poor, with a five-year survival rate of ~60 percent, among the lowest for all major cancers. However, survival increases to ~83 percent when the cancer is detected in its early stage. Unfortunately, only 36 to 41 percent of oral cancers are detected early.

Potentially malignant oral disorders (PMODs) precede a significant proportion of oral cancers. How-

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“More than 30 million people in the US go routinely to a dentist, but lack a general healthcare provider, making the dental visit the most frequent US healthcare contact and the ideal venue for screening and management of both oral and systemic diseases at the point-of-care.”

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ever, only about 5 percent of these lesions progress to cancer. There are currently no reliable clinical predictors regarding which lesions will progress. Standard good clinical practice dictates that all suspicious lesions should be biopsied. Histological evidence of epithelial dysplasia is considered the most widely used predictor of the potential for malignant progression. Yet diagnosis of oral epithelial dysplasia can be subjective and notoriously unreliable with considerable inter- and intra-examiner variation in histopathological diagnosis. Even when severe dysplasia is present, it is estimated that only 40 percent of lesions will progress to cancer; accordingly, up to 60 percent of highly invasive scalpel biopsy procedures may be unnecessary.

In the area of oral cancer, the p-BNC platform was adapted to service this “cytology-on-a-chip” application whereby cell morphology, nuclear parameters, and protein surface expression markers are all measured using noninvasive brush biopsy sampling. Nearly five years ago, the initial concept for this
chip-based cytology-on-a-chip system was applied to the analysis of PMODs. The promising results from the pilot (proof of principle) studies paved the way for the follow-up biomarker model development and biomarker model validation study. The later study consisted of a 999-patient, four-site international clinical trial, sponsored by the NIH Grand Opportunity (GO) program and has led to the creation of one of the largest oral cytology databases ever created for potentially malignant oral lesions. Significantly, this biomarker model development-validation effort has involved an expanded group of promising biomarkers (αvβ6, EGFR, CD147, β-catenin, McM2, Geminin, and Ki67) for use in the classification of mucosal lesions across various classes of malignant progression, with the primary objective to distinguish between benign, dysplastic, and malignant lesions. 

Unlike prior efforts, the GO trial involved measurement of biomarkers for each cell resulting in about 2,000 cellular replicates per biomarker per sample. Thus, each biomarker has an entire distribution of measures per patient. Further, as all cells were profiled at the single-cell segmentation level with 50 unique image parameters, there are now over 10 million profiled cells in this massive cytology database. This carefully profiled database can indeed serve as a unique resource for development of new technologies for management of PMODs.

These data have fostered a robust capacity to assess in a quantitative manner the level of disease progression for potentially malignant oral lesions using a noninvasive sampling method combined with the automated chip-based sampling modality. This new approach surpasses the level of quantitation possible with existing adjunctive oral cancer diagnostic aids. To help transfer the new capabilities to real-world clinical practice, the tests are now moving to the new startup venture, SensoDx. While the test is not yet
available commercially, it is expected to move into the dental community over the next few years. The cytology-on-a-chip assay is being validated now at NYU College of Dentistry through a Fast Track SBIR mechanism funded by NIDCR.

The p-BNC universal diagnostic assay system has the potential to shift the current clinical practice paradigm for screening and diagnosis of potentially malignant oral lesions by moving away from sole reliance on highly invasive scalpel biopsies followed by expensive and time-consuming pathology exams.

**CARDIAC SCORECARD**

Coronary heart disease (CHD) is the leading cause of death in the US; one coronary event occurs every 25 seconds in America, with 34 percent of those afflicted dying within the same year, amounting to one death every minute. On an annual basis, approximately 785,000 Americans have new coronary attacks, and 470,000 have a recurrence, with an estimated 195,000 first myocardial infarctions occurring silently. There were about 406,351 deaths in the US from CHD in 2007, approximately one in six of all deaths. Today, CHD is the leading cause of death and disability worldwide. A lack of effective tools to provide positive actionable feedback to patients may be responsible for a minimal focus on early stage diagnosis. Put another way, our society lacks an effective cardiac wellness tool as well as clinical environments suitable for its implementation.

As mentioned above, the dental point-of-care setting is an ideal location for development of this new testing capacity because routine dental screens serve as the most common healthcare contact for US citizens.

Recent efforts in the McDevitt laboratory associated with the p-BNC have led to the establishment of predictive models to assist in the diagnosis and risk estimation of overall cardiac wellness, acute myocardial infarction (AMI), and heart failure (HF). These models, collectively referred to as the Cardiac ScoreCard, serve as a diagnostic multivariate index assay. The initial models were trained using data from NIH-U01 “Development of a Lab-on-a-Chip System for Saliva-Based Diagnostics,” which measured 15 cardiac biomarkers in serum and saliva for 1,050 patients over three clinical sites and four time points (start-time: 1, 3, 6, 12 hours). Initial results from these efforts suggest that augmenting traditional risk factors with a multimarker panel spanning a diverse cardiovascular pathophysiology provides superior prediction performance over reference methods in each of these three areas.

To take advantage of these new capabilities, NYU Dentistry is initiating dental chairside cardiac screening procedures with the development of a custom mobile application. The mobile application will serve three functions. First, it will serve as a gateway for subjects to input updates on their weight, blood pressure, and perceived stress level. In this role, it will also collect step count data from subjects’ assigned activity monitors. Second, it will provide a means for subjects to relay this information to the p-BNC Cloud Platform. Third, the app will also serve as a means for study administrators to communicate biomarker updates and targeted health-promoting messages to the subject pool. By uploading updates on weekly health metrics to the HealthData Platform, study administrators will be able to create individualized messages to participants regarding insights, potential warnings, and challenges for improved health. With the new integrated cardiac-testing capabilities alongside the new mHealth data delivery tools, NYU Dentistry research teams are attempting to provide the dental community with powerful new tools to help manage patient health care in a way not possible in the past.

The implementation of p-BNC promises a new era in medical diagnostics within the dental office. With these new chip-based approaches, it may be possible to move away from late stage disease diagnosis into early stage disease capture. These powerful tools, along with new diagnostic models, show strong potential to improve screening for oral cancer and cardiac risk in a major way, while at the same time providing increased understanding of disease progression.

To view a video about Dr. McDevitt’s research, please visit: https://www.youtube.com/watch?v=HUtux256bys.

A list of references appears in the online version of this article at dental.nyu.edu/nexus.
REFERENCES


New digital technology helps boost students’ scores on Part I of the National Board Dental Examination.

Global Health Nexus (GHN): Please tell us what motivated you to introduce the online learning technology known as Cerego to your preparation course for Part I of the National Board Dental Examination (NBDE).

Dr. Cunningham: In 2013, NYU Dentistry increased the number of freshmen enrolled in the predoctoral DDS program from 235 to 350. Prior to this increase, second-year students spent six hours in class preparing for the anatomical sciences section of Part I, working in small groups using plastinated specimens. We were determined to continue to offer this same small group experience to the Class of 2017, and to future classes, despite the increase in size.

GHN: How did you learn about Cerego?

Dr. Cunningham: I attended an NYU Academy of Distinguished Educators lecture presented by Dr. Jan L. Plass. Dr. Plass is the Paulette Goddard Chair in Digital Media and Learning Sciences at the NYU Steinhardt School of Culture, Education, and Human Development. When I told him about our objective, he suggested Cerego as a technology that could help.

GHN: How was the digital component of the course developed?

Dr. Warshaw: Dr. Cunningham and I transferred half of the course’s content online, filing the data under three central topics — muscles of mastication, neuroanatomy, and oral cavity. We then divided each topic into sets and subdivided each set into what Cerego calls items. Given my background in graphic design, I was able to create illustrations to accompany each item, and Dr. Cunningham added the illustrations and corresponding content to Cerego using a selection of design templates. Cerego also welcomes multimedia content, including photos, sound bites, and video clips.
GHN: In what ways is Cerego-enhanced learning more effective than standard classroom instruction?

Dr. Cunningham: Cerego employs two learning concepts — memory retrieval and spaced practice — and adapts to each student’s learning speed to ensure that he or she remembers the material as it’s presented. Throughout each lesson, Cerego tracks the length of time each student takes to answer a question and his or her accuracy in responding. The program uses this data to determine which questions should be repeated, when the next review session should occur, and which of the five levels of competence the student has achieved, with the highest level being mastery.

GHN: How has Cerego improved the study of plastinated specimens?

Dr. Cunningham: The ability to review basic anatomical information prior to class has helped our students gain a better understanding of the more conceptually complex data they encounter while working with plastinations in the lab.

GHN: How are the College of Dentistry faculty benefitting from the use of Cerego?

Dr. Warshaw: Cerego is built on proven memory science to help students learn faster and remember longer. Without Cerego, our faculty would have had to devote an additional 96 hours of teaching to the Part I NBDE review course. This interactive learning tool not only affords our faculty more time for covering complex review topics in class, but it also offers personalized data that make it easy for faculty to determine and address the basic online review items that may present a problem for one student or for the entire class.

GHN: It sounds like Cerego has been a win-win for both students and faculty. Do you agree?

Dr. Cunningham: Yes, indeed. Thanks in part to Cerego, the Class of 2017 achieved a 100 percent first-attempt pass rate on Part I of the NBDE, and scored 2.6 standard deviations above the national mean in the anatomical sciences. Since introducing Cerego as a key component of the Part I NBDE review course, Dr. Warshaw and I have received numerous inquiries from colleagues interested in using it for conferences and in other College of Dentistry courses.

“Cerego is built on proven memory science to help students learn faster and remember longer. [It] not only affords our faculty more time for covering complex review topics in class, but it also offers personalized data that make it easy for faculty to determine and address the basic online review items that may present a problem for one student or for the entire class.”
ADAPTING blended learning in the pediatric dentistry curriculum

Recent literature has sought to address the changing educational needs of the modern student, and has begun to demonstrate the benefits of teaching and learning in a more interactive environment. Blended learning, or the “flipped classroom” model, involves transferring fundamental concepts from the classroom to online video modules, where students review them outside of class, independently, and at their own pace. Educators then utilize the in-class “face-to-face” time for student engagement and dialogue to create a deeper analysis of subjects. This teaching modality also allows educators multiple opportunities to assess a student’s knowledge and understanding during the actual learning process. Studies have shown that this model not only serves to engage students, but may also have important implications for content retention.

by

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Recent literature has sought to address the changing educational needs of the modern student, and has begun to demonstrate the benefits of teaching and learning in a more interactive environment. Blended learning, or the “flipped classroom” model, involves transferring fundamental concepts from the classroom to online video modules, where students review them outside of class, independently, and at their own pace. Educators then utilize the in-class “face-to-face” time for student engagement and dialogue to create a deeper analysis of subjects. This teaching modality also allows educators multiple opportunities to assess a student’s knowledge and understanding during the actual learning process. Studies have shown that this model not only serves to engage students, but may also have important implications for content retention.
NYU has provided institutional support for the incorporation of blended learning across the entire University through a variety of resources including the Digital Studio housed in NYU’s Bobst Library. The Digital Studio Team advises instructors on how to rethink existing content and transform it into a blended learning format. For example, one recommended strategy is to take a one-hour lecture and break it down into four or five main objectives, with each module (objective) consisting of a five- to seven-minute video.

In 2014, the Department of Pediatric Dentistry piloted the implementation of blended learning in our second-year course, “Introduction to Pediatric Dentistry.” With the success of that course, we have implemented a fully blended approach across all pediatric dentistry courses from the first through the fourth year, including didactic, clinical, and preclinical courses, as shown at right.

The creation of a blended learning pediatric dentistry curriculum was pivotal to our department’s success in obtaining a five-year Health Resources and Services Administration (HRSA) grant focusing on novel approaches to improve predoctoral dental education and provide improved care to underserved young children and adolescent populations. This funding will enable us to continue to expand blended learning across all four years of the pediatric dentistry curriculum as well as throughout our interprofessional education curriculum. We will also be able to incorporate emerging new technologies going forward.

We are also exploring the use of a blended learning approach to continuing education courses for a variety of healthcare providers, including nurses, pediatricians, dental hygienists, and general dentists.

NYU Dentistry’s New Blended Learning Pediatric Dentistry Curriculum

First Year: “Pediatric Dentistry for the New Dentist” Blended learning has enabled review of content prior to the students’ community outreaches and has facilitated the use of student video presentations versus the traditional PowerPoint models.

Second Year: “Initial Clinical Experience” Integration of blended learning has added content without adding curriculum time. Students not only review clinical material prior to outreaches, but also develop an appreciation for cultural issues related to particular outreach sites; e.g., Head Start and special-needs patients’ sites.

Second Year: “Pediatric Dentistry Simulation Lab” Blended learning has expanded the availability of video modules containing didactic content and lab procedures. Students can now view these at their own pace, both before and during class.

Second Year: “Introduction to Pediatric Dentistry” We converted a large lecture class format (389 students) into 14 small group seminars composed of 25 students each. Students review the material in advance and participate in four interactive, face-to-face sessions to facilitate opportunities for dialogue and discuss clinical cases that illustrate the concepts.

Third Year: “Advanced Pediatric Dentistry” Implementation of blended learning enabled transfer of content from the 17-hour large group lecture course to students’ pediatric dentistry rotation. The didactic content is now embedded in the students’ clinical rotation, which has allowed for even smaller groups of only 14 students each.

Fourth Year: “Pediatric Clinical Rotation” Seminars are embedded in the students’ clinical rotation and continue the thread of the didactic categories begun in the first, third, and fourth years, with students rotating together as a group in the pediatric dentistry clinic, which allows for didactic and clinical mentorship throughout the day.
In 2014, the second-year “Introduction to Oral Surgery” course was transformed to incorporate a new, technology-based form of dental education. The redesigned course was a great success; accordingly, we are expanding this method of teaching to include the third-year predoctoral oral surgery curriculum as well.

Ten years ago, predoctoral students first learned about oral surgery through lectures. Five years ago, the course underwent a major redesign and the all-class lectures were replaced by small group, case-based seminars. Students were assigned to groups of approximately 30 students and each group met weekly with one faculty member. Each group discussed oral surgery cases using standardized and scripted PowerPoint presentations. Topics were taught through patient examples, and students were encouraged to work through clinical cases to understand the material being presented. Students seemed to enjoy the opportunities for direct faculty interaction and discussion provided by the smaller group format. However, it was difficult to standardize discussions among groups, and it was not possible to practice techniques and procedures or to assess students’ preparedness before they entered the clinics in their third year.

In the fall of 2014, my chairman, Dr. Robert Glickman, asked me, as the director for the predoctoral oral surgery curriculum, to redesign the course to address these challenges. To do this, I reached out to NYU’s Global Learning and Innovation team and was introduced to Elizabeth McAlpin, who is the assistant director of instructional and curricular development for Global Technology Services and an adjunct faculty member in Educational Communication and Technology. Over the
next nine months, Elizabeth and I worked together to develop a course that replaced the five seminars. This brand-new course used blended learning and the latest educational technology.

In the redesigned “Introduction to Oral Surgery” course, there is a blended learning format for the five seminar lessons. Blended learning exposes students to material through a combination of digital and online media with some element of student control over pace, place, and time. Through the NYU Classes internal web interface, Elizabeth and I created an interactive and multimedia course site that contains much more than lecture materials and PowerPoint slides. Students are able to watch videos of me performing the delivery of local anesthesia and extractions on a manikin; play customized, digital animations demonstrating how to use oral surgery instruments and equipment; test themselves with multiple-choice quiz questions to assess their understanding of the information presented; ask me questions through a live forum that everyone in class has access to in real time; read instructions for student assignments to produce their own videos; and find links to references for additional reading. Each seminar lesson also has a survey at the end that students complete anonymously to provide feedback that is used to revise and refine the course.

The redesigned course was launched in January 2015. The second-year class was subdivided into groups of approximately 30 students and assigned two seminar sessions with me over the course of approximately five weeks. The first “live” small group meeting was an introduction to the course and a lecture on what oral surgery is and what an oral surgeon does. Students also learned about the perioperative management of oral surgery patients and how to determine if patients are ready to undergo an oral surgical procedure. At the end of the two-hour session, students broke up into groups of three to prepare for their video assignments.

Over the next month, students independently reviewed all of the seminar lesson materials online, completed the knowledge check quiz questions and surveys, and recorded and submitted four videos. For each video, students worked in groups of three in which one student was the oral surgeon, one was the patient, and one recorded the interactions. All the students addressed the same patient case scenario for each video project. The videos assessed core topics covered in the course including local anesthesia, exodontia, and medical emergencies. They gave students the opportunity to demonstrate communication skills and hand skills for administering local anesthesia, performing extractions, and managing medical emergencies. These short videos were recorded on students’ phones or tablets and were submitted online through a secure portal. I was impressed with how students embraced the projects: Some included animations and anatomical diagrams, and others recreated very realistic patient/doctor interactions.

During the last week of their five-week block, students met with me again in their small groups to review the knowledge check quiz questions and some of the best student videos. I also answered questions and reviewed materials that were still unclear in preparation for the final exam.

After the course ended, Elizabeth and I reviewed the knowledge check quiz results and post-seminar surveys. These two measures aimed to quantify the effectiveness of the redesigned course and students’ reactions to it. Overall, students were greatly satisfied with the course and felt that they had gained a strong working knowledge of the subject material presented. They enjoyed being able to access the course material online and to have multiple opportunities to practice core clinical skills in a “safe” simulation setting.

By exposing students to new course material through a blended learning approach combining various types of media with in-person active learning, we have been able to promote greater retention of core information among students and a greater degree of student satisfaction. The process of redesigning the course was collaborative, informative, and fun, and provided us, as faculty, with an opportunity to educate ourselves about the learning styles of current dental students.
WHY HAVE A HACKATHON FOR DENTAL HEALTH CHALLENGES?

Hackathons are all about learning and exposure. While you may not immediately solve big problems, you may experiment with several new approaches you’ve never tried before. Hackathons also provide an opportunity to work in collaboration with people offering a variety of skill sets, which is another learning opportunity.

Dental Hackathon is a weekend-long invention marathon where designers, programmers, builders, and experts in various healthcare and healthcare-related fields are invited to learn, build, and share their inventions. In addition, students are encouraged to form multidisciplinary teams to address a proposed problem or challenge in oral health care, such as improving patient education, preventing tooth decay, and enhancing patient care. Inventions are showcased at the end of the weekend when judges award prizes to teams with the most creative and innovative ideas to improve access to oral health care, education, and sustainability. Winners are able to develop their ideas further through ongoing mentorship and funding.

Student leaders are at the forefront of this project. Hard work and determination have laid the groundwork needed to propel Dental Hackathon forward toward collaborations with multiple areas in dentistry and with dental schools across the country. Moreover, Dental Hackathon’s success can be directly linked to the mentorship and support provided by key faculty.

Under the auspices of HackNYU, an annual event which emphasizes innovation and creativity and the time needed to develop and engineer solutions to today’s community problems, the Dental Track of HackNYU provides a platform in which to engage students, faculty, and alumni in developing and creating future healthcare technologies to improve oral health.

by
Mr. Saj Arora
DDS Program
Class of 2017
members, program coordinators, and many forward-thinking department chairs.

Working alongside students from NYU’s Tandon School of Engineering in Brooklyn, the Dental Track of HackNYU took place from Friday, February 19, to Sunday, February 21. Four hundred and fifty students from dentistry, engineering, nursing, hygiene, and predental programs, along with mentors, judges, and volunteers, participated in this exciting event. Google, New York Life Insurance Company, Dev Bootcamp, and New York University sponsored abundant amounts of food, free massages, giveaways, nap rooms, and nine workshops. The workshops ranged from introduction to coding to showcasing new technologies such as virtual reality in dentistry and other healthcare areas. All in all, 41 projects were submitted over the course of the weekend, with 30 students addressing challenges in oral health care. The three winning Dental Track projects were:

- **Oral ImageNostics** analyzes images of teeth using computer vision and machine learning to provide a “plaque score” that helps a person track and improve his/her oral health.
- **Tooth-Bit** determines the effect and risk on a person’s oral health of what they eat, such as sugar and other foods that can foster teeth-eroding bacteria. It’s like a Fitbit for teeth!
- **DentiCaid** helps take the confusion out of health insurance by crowdsourcing information about nearby dentists who accept Medicaid for specific services. This service aims to expand access to oral health care.

**WHAT’S NEXT FOR DENTAL HACKATHON?**

Dental Hackathon’s vision is to provide a framework that harnesses the creative prowess within students, researchers, and clinicians across NYU schools, colleges, and programs. Given the right conditions, we have the opportunity to power healthcare technologies of tomorrow and to transform learning through creative problem solving. Technology can be a powerful adjunct to doctor-patient interactions by unlocking new methods of interfacing with patients at the global level and a port of entry for alumni and others eager to learn how they can help shape the future of the dental profession.

NYU Dentistry’s collaboration with the Tandon School of Engineering, our large, highly motivated student body, and involved faculty and alumni have been the foundation for Dental Hackathon’s success to date. Now, the challenge is to grow and advance this platform through collaborations with other areas of dentistry, such as private practice and dental schools across the country.

The first Dental Hackathon would not have been such a success without the support of many people.

- Thank you to the following students for dedicating tremendous amounts of time and energy to Dental Hackathon: Stephanie Coilaicovo, Andrew Kary, Nicole Haydt, Jackie Schmidt, Bre Patel, Vanessa Bikhazi, Billy Kwon, and Fadhel Gazala.
- Dr. Huzefa Talib (Department of Oral and Maxillofacial Surgery), Chris Tung, Dr. Stuart Hirsch (Global Outreach Team), and Dr. Mary Northridge (Department of Epidemiology and Health Promotion) for being judges and outstanding mentors on all dental projects.
- The Department of Oral and Maxillofacial Surgery for sponsoring the prizes for the three winning Dental Hackathon teams.
- Thank you to Dr. John T. McDevitt, professor and chair of the Department of Biomaterials, for being an early believer in the mission and vision of Dental Hackathon and for hosting the first Dental Hackathon Workshop on patient education.
- Chris Tung and Rachel Hill from the Global Outreach Team for hosting the second Dental Hackathon Workshop on preventive care.
- Miguel Colmenares and Henry Schein Dental for the in-kind donation of all dental hygiene kits.
- Thank you to Perla Bernstein, Selena Drobnick, Maya Ardon, and the NYU College of Dentistry Student Affairs team for helping manage logistics and partnerships across the College.
TECHNOLOGY — the application of scientific knowledge for practical purposes — is and always has been a core component of dentistry.

In the 11th century, long before the first comprehensive scientific textbook on dentistry, Pierre Fauchard’s Le Chirurgien Dentiste, was published in 1728, dentistry was practiced by a variety of craftsmen, primarily barbers, but also wigmakers, bloodletters, goldsmiths, and blacksmiths, among others. Yet despite their lack of formal, academic training, these medieval practitioners possessed a distinctive skill set and used specialized instruments to remove, repair, and replace the hardest tissue in the body.

Intrigued? Read Dr. Spielman’s full article at: dental.nyu.edu/historical.
*This is not intended to be a comprehensive list of technological advances in dentistry.
Dr. Xin Li Awarded a Young Investigator Award from the Society for Basic Urologic Research

Dr. Xin Li, assistant professor of basic science and craniofacial biology, has won the Society for Basic Urologic Research (SBUR) Young Investigator Award in recognition of her significant contributions to urologic research. Dr. Li holds a secondary appointment in the Department of Urology at the NYU School of Medicine. The award recognizes significant contributions to urologic research by an SBUR member under the age of 40.

Dr. Li’s research focuses on the causes and progression of prostate cancer and bone metastasis, observing metformin’s molecular mechanisms in mesenchymal and epithelial cells. Metformin is the first-line agent for type 2 diabetes which has been suggested to have anti-neoplasia efficacy and the potential to reduce fracture risks.

Dr. Zhongbo Liu Selected as a 2015 Endocrine Scholar in Growth Hormone Research

Dr. Zhongbo Liu, an assistant research scientist in the Department of Basic Science and Craniofacial Biology, received an ENDO 2015 Endocrine Scholars Award in Growth Hormone Research for his paper titled “The Role of the GH/IGF-1 Axis in Determining Skeletal Sexual Dimorphism.” Dr. Liu’s research seeks to determine the ways in which the growth hormone and insulin-like growth factor-1 in bones interacts with male and female sex steroids during prepuberty and puberty to lead to skeletal sexual dimorphism.

Dr. Jawed Siddiqui Recognized for Bone Research

Dr. Jawed Siddiqui, a research associate in the Department of Basic Science and Craniofacial Biology, presented an abstract titled “Regulation of PTH-induced Bone Loss: A Role for Monocyte Chemoattractant Protein-1” at the annual Bone Research Society/British Society for Matrix Biology Joint Meeting. He also presented the abstract at the Orthopedic Research Society’s (ORS’s) 45th International Sun Valley Workshop on Musculoskeletal Biology, where he received the ORS Sun Valley Alice L. Jee Award.
**Dr. Chi Tonglien Viet Wins Major AAOMS and OMS Research Awards**

For the fifth consecutive year, Dr. Chi Tonglien Viet, adjunct professor of oral and maxillofacial surgery, was awarded the American Association of Oral and Maxillofacial Surgeons (AAOMS) 2015 Resident Research Award. The award recognizes the superior standards of research and clinical application demonstrated in her paper, “OPRM1 Methylation Contributes to Opioid Tolerance in Cancer Patients.” Also for the fifth consecutive year, Dr. Viet’s research grant, “Interaction Between Mu-Opioid Receptor and B2 Adrenergic Pathways in Oral Cancer Pain,” was funded by the Oral and Maxillofacial Surgery Foundation (OMS) and, for the third consecutive year, the grant received the OMS’s Stephen B. Milam Award, given to the highest scoring application.

**Dr. Yi Ye Receives International Association for the Study of Pain Early Career Research Award**

Dr. Yi Ye, assistant professor of oral and maxillofacial surgery and associate director of clinical research operations at the Bluestone Center for Clinical Research, received the International Association for the Study of Pain (IASP) Early Career Research Grant Award for her project, “Resolvin D2 as a Novel Therapy for Head and Neck Cancer Progression and Pain.” The award is designed to facilitate development of young researchers at the start of their careers as independent investigators.
Within days of assuming the NYU presidency on January 1, 2016, Dr. Andrew Hamilton, the 16th president of NYU, paid two visits to NYU College of Dentistry. The first occurred on January 12, when President Hamilton was featured at a General Faculty Meeting held in Septodont Hall. At his second visit, on January 27, he and his wife, Jennie, were the guests of honor at a welcoming reception cohosted by the Colleges of Dentistry and Nursing. President Hamilton had also paid an earlier visit to the College of Dentistry shortly after being named President-Designate last spring.

President Hamilton served most recently as Vice Chancellor of Oxford University, the university’s senior officer, after an academic career that took him from Princeton to the University of Pittsburgh, and then to Yale, where he served as provost. A distinguished chemist and a Fellow of the Royal Society, President Hamilton’s scholarly work lies at the intersection of organic and biologic chemistry. He will continue his scholarly work at NYU.

At the welcoming reception, President Hamilton said, “You all really know how to make someone feel welcome,” and added, “I have been deeply impressed by the faculty and administrators in the Colleges of Dentistry and Nursing, and I look forward to working with you all.”

Global Oral Cancer Forum Held at NYU

More than 200 participants from 33 countries assembled at NYU’s Kimmel Center in March for a two-day inaugural Global Oral Cancer Forum, “Challenges in the Global Burden of Oral Cancer: Progress in Early Diagnosis and Prevention.” The forum was organized by Dr. Ross Kerr, clinical professor of oral and maxillofacial pathology, radiology and medicine, who brought together an international group of clinicians, scientists, epidemiologists, activists, and public health experts to share the issues they face and to learn about innovations, models, and ideas that have the potential to catalyze positive change globally and help reduce oral cancer mortality rates. The forum was made possible by a generous educational grant from the Henry Schein Cares Foundation.

Highlights included keynote remarks by Dr. Michael C. Alfano, dean emeritus of NYU Dentistry and executive vice president emeritus of NYU, who challenged participants to “lead the dental profession in raising awareness of the importance of oral cancer early detection and treatment” by acting “in the here and now to make a difference,” and the presentation of the Global Oral Cancer Forum Commitment, Courage, and Innovation Leadership Award to Brian R. Hill, founder and director of The Oral Cancer Foundation (USA).
The College held its Class of 2018 White Coat Ceremony on January 19, 2016, at the NYU Skirball Center for the Performing Arts. Faculty, family, and friends joined the members of the Class of 2018 for the celebration, which signifies students' transition to the clinical phase of their journey toward becoming dentists. This year's ceremony featured a gala reception for students and families and a next-day breakfast and program for family members.

White Coat Ceremony

The members of the Class of 2018 recite The Dentist's Pledge.

Academy of Distinguished Educators Inducts New Members

Four faculty members were inducted into the NYU Academy of Distinguished Educators during the 2015–2016 academic year. Pictured, from left, they are Dr. Leila Jahangiri (honorary), clinical professor and chair of the Department of Prosthodontics, Dr. Michael Ferguson, clinical associate professor of prosthodontics, Dr. Denise Foran, clinical assistant professor of endodontics, and Dr. Joel Silver, clinical associate professor of cariology and comprehensive care.

"The College takes great pride in the outstanding contributions to dental education, research, and scholarship of these newest members of the Academy," said Dean Bertolami. "In inducting them, the Academy continues to set very high standards for recognizing excellence in clinical and educational scholarship."
"Service Learning,” a strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities, was the theme of a visit by a delegation of California state legislators and California Dental Association (CDA) officials on September 25, 2015. The visit marked the third consecutive year in which the delegation visited the College to participate in an Oral Health Forum hosted by Dean Bertolami. This year’s forum featured NYU College of Dentistry and NYU Rory Meyers College of Nursing faculty and NYU dental students who hail from California and had participated in service learning outreaches around the world.

Dr. Judith Haber, The Ursula Springer Leadership Professor of Nursing and senior advisor to the dean for special projects at the NYU College of Nursing, presented “From Silos to Teamwork: An Interprofessional Oral Health Journey,” and Dr. John T. McDevitt, professor and chair of the Department of Biomaterials at NYU Dentistry, discussed “The Programmable Bio-Nano-Chip: A Platform to Digitize Biology.”

Dr. Stephanie Karapetian, ’15, and PG Pediatric Dentistry Program, ’17, from Burbank, CA, discussed her experiences in Saint George’s, Grenada, and Poughkeepsie, NY; Alexander Sy, ’16, from Arcadia, CA, spoke about La Preciosita, Mexico; James Chau, ’16, from San Diego, CA, and Brett Sterling, ’16, from Bell Canyon, CA, both reported on their outreach to Kathmandu, Nepal. Joining the open discussion that followed were 11 additional DDS students from California representing the Classes of 2017, ’18, and ’19. All the students described their outreach experiences as “transformative.”

The California delegation included Senator Tom Berryhill, Assembly Member David Chiu, Assembly Member Jim Cooper, Senator Ed Hernandez, and Assembly Member Evan Low. Also, CDA member dentists Dr. Jared I. Fine and Dr. Robert Hanlon; Peter Dubois, executive director of the CDA; Todd Robertson, public affairs manager for the CDA; and Brianna Pittman, the CDA’s director of legislation.
In fall 2015, the College welcomed 92 dentists from 38 countries at a gala reception in their honor at the Manhattan Penthouse to mark their entry into the Programs for International Dentists. These programs, designed for dentists from around the globe who plan to return to their home countries to practice, include courses in the dental specialties and in implant dentistry, plus the Teaching in Dental Education (TIDE) fellowship.

2016 NYU President’s Service Awards Go to Two Members of the Class of 2016 and Three Student Groups

Dr. “Annie” Quratul Malik, ’16, Dr. Matthew Meister, ’16, the American Dental Education Association (ADEA) Student Chapter at NYU Dentistry, the dental track of HackNYU, and Students in Public Health Dentistry were honored at the 2016 NYU President’s Service Awards for outstanding service to NYU and the broader community.

From left: Representatives of the ADEA NYU Student Chapter, Ms. Celest Qian, ’18, Mr. Hamel Sevak, ’18, Ms. Pauline Robinson, ’18, and Dr. “Annie” Quratul Malik, ’16, with NYU President Andrew Hamilton.
2015 Faculty Council Teaching Award Winners

Each year, the College’s Faculty Council recognizes excellence in teaching and mentoring. The 2015 award recipients were Dr. Yu Zhang, associate professor of biomaterials, Dr. Huzefa Talib, clinical assistant professor of oral and maxillofacial surgery, Ms. Jill B. Fernandez, clinical associate professor of pediatric dentistry, Dr. Angela De Bartolo, clinical assistant professor of cariology and comprehensive care, Dr. Denise Foran, clinical assistant professor of endodontics, and Dr. Edmund Khoo, clinical assistant professor of orthodontics. The winners received their awards at a ceremony held in conjunction with the Welcome Reception for New Faculty in September. The College congratulates these outstanding teachers who affirm the importance of teaching to the College and to advancing its mission of providing the best dental education for our students.

2016 Service Awards Presented

NYU Dentistry hosted its annual Service Awards Ceremony on April 18, 2016, to pay tribute to faculty, staff, and administrators celebrating 10, 15, 20, 25, 30, 35, 40, 45, 50, and 50+ years of continuous service.

“It is a privilege to honor such an outstanding group of individuals,” said Dean Bertolami. “Through your dedication and commitment to the College, you play a pivotal role in making NYU Dentistry the school of choice for our nation’s top students, for distinguished faculty, and for patients seeking quality, affordable dental care in a welcoming, hospitable environment. I salute you for your service.”

Dr. Rakesh Sarin, Coauthor of Engineering Happiness, Speaks at NYU Dentistry

Dr. Rakesh Sarin, coauthor of the best-selling book, Engineering Happiness: A New Approach for Building a Joyful Life, presented a guest Dean’s Lecture on May 4, 2016. Dr. Sarin, who is professor and Paine Chair in Management at UCLA Anderson School of Management, spoke of a philosophy of happiness based on a detailed mathematical analysis of what it means to be happy. According to Dr. Sarin, happiness is a choice; it is relative; and it is achievable following six basic laws of happiness. At the core of this philosophy is the importance of finding and focusing on one’s purpose in life. Both Dr. Sarin’s philosophy and his presentation captivated the more than 250 students, faculty, and staff who attended the event.
2016 Oral Cancer Walk

The 2016 NYU College of Dentistry student-led Oral Cancer Walk on April 17 drew more than 550 walkers and raised more than $25,000 to help stamp out oral cancer, with all proceeds going to the NYU Oral Cancer Center. Oral cancer survivors and their families joined students, faculty, and staff for a walk through the community to raise awareness of oral and pharyngeal cancer, a disease that kills over 8,000 Americans annually. The keys to survival are awareness, prevention, and early detection. If detected in its earliest stages, oral cancer is easily treated. Following the walk, students and faculty hosted a free oral cancer screening at the College for the general public.

Dr. Cosmo V. De Steno, associate dean for clinical affairs, director of the NYU Dental Faculty Practice, and clinical professor of prosthodontics, stepped down from his position as associate dean for clinical affairs effective May 1, 2016, to devote more time to leading the Dental Faculty Practice in his new role as associate dean for professional practice.

Since joining the College in 2007, Dr. De Steno has overseen the clinical affairs function, including quality assurance, patient advocacy, central dental labs, and clinical risk management. He also serves as dental director of the Article 28 Diagnostic and Treatment Center at the College. We are grateful for his stewardship of our clinical affairs operation through a period of substantial growth over the past nine years.

Class of 2017 Scores 100 Percent Pass Rate on National Boards

In another extraordinary performance on the National Boards by NYU dental students, the Class of 2017 achieved a 100 percent first-attempt pass rate on Part I of the National Board Dental Examination. This is a tremendous personal achievement for every individual in the class and is significantly above the national average. Clearly, NYU dental students are raising the bar on performance standards nationally.

The engine that drives such success is fueled by our outstanding faculty, who role model best clinical practices, are available for individual tutorials, and have the best interests of our students foremost in their minds. This, together with the discipline and commitment of our students, makes an unbeatable combination.

Changes in Development Office Leadership

Effective March 1, 2016, Dr. Stuart Hirsch stepped down from his position as chief development officer after serving in that role for more than 15 years. It was a privilege to have had Stuart's leadership for so many years, and we thank him heartily for guiding NYU Dentistry to unprecedented levels of philanthropy. He will remain at the College as vice dean for international initiatives and for student affairs. Succeeding him in the development post is Dr. Mark Wolff, professor and chair of the Department of Cariology and Comprehensive Care and associate dean for predoctoral clinical education, who has added the new role of associate dean for development to his responsibilities.

In addition, Rita Startup made the decision to retire from her position as assistant dean for development and alumni affairs, effective March 1, 2016. An alumna of NYU, Rita has been an important part of our institution for nearly 40 years of dedicated service and has played a vital role in many College initiatives.

We thank these outstanding individuals for their remarkable service to the College.
Robert N. Eskow NYU College of Dentistry Implant Dentistry Award Presented to Dr. Burton Langer

The 26th Annual NYU/ICOI Implant Symposium held in November 2015, “Avoiding and Solving Implant Complications,” was the occasion for the presentation of the Robert N. Eskow Implant Dentistry Award to Dr. Burton Langer. Named in honor of its benefactor, Dr. Robert Eskow, clinical professor of periodontology and implant dentistry, the Eskow Award recognizes individuals in implant dentistry for outstanding achievements and significant contributions to the science and clinical application of implant dentistry.

From left: Dr. Eskow, Dr. Langer, and Dr. Peter M. Loomer, clinical professor and chair of the Ashman Department of Periodontology and Implant Dentistry

Dr. Liliana Ortiz Camacho Named 2016 Litvak Fellowship Recipient

Dr. Liliana Ortiz Camacho, a second-year postgraduate student in the Jonathan and Maxine Ferencz Advanced Education Program in Prosthodontics, is the 2016 recipient of the Dr. Harold Litvak Junior Fellowship in Prosthodontics. Each year, the Litvak Fellowship is awarded to the second-year postgraduate student in prosthodontics with the highest academic standing.

“Dr. Ortiz is a second-year class representative for the Advanced Education Program in Prosthodontics and has been in academic good standing throughout her time at the College,” says Dr. Mijin Choi, clinical associate professor of prosthodontics and director of the Jonathan and Maxine Ferencz Advanced Education Program in Prosthodontics.

Dr. Ortiz holds a DDS degree from the Universidad del Zulia in Maracaibo, Venezuela. She joined NYU in 2012 as a student in the Advanced Program in Prosthodontics for International Dentists. Upon completion of that program, she was awarded a clinical assistant fellowship in prosthodontics, and she then entered the Jonathan and Maxine Ferencz Advanced Education Program in Prosthodontics.

Dr. Ortiz describes prosthodontics as “a specialty that combines function and aesthetics — both a science and an art that can dramatically change a person’s life. The Jonathan and Maxine Ferencz Advanced Education Program in Prosthodontics has provided me with extensive knowledge of diagnosis and treatment planning, and with a better understanding of how to provide the best and most comprehensive care for patients.”

The Litvak Fellowship was established in 1999 through a generous grant from Mrs. Adele Block in honor of her dentist, Dr. Harold Litvak, an adjunct clinical professor of prosthodontics and a generous donor to the College. Mrs. Block is a member of the family that owned the Block Drug Company, Inc., a major producer of oral and general healthcare products, which is now a division of GlaxoSmithKline.
Dr. Eduardo D. Rodriguez Receives 2016 Arnold K. Maislen Award

On June 9, 2016, Eduardo D. Rodriguez, MD, DDS, was honored with the 2016 Arnold K. Maislen Award for distinguished contributions to oral and maxillofacial surgery. Dr. Rodriguez, a 1992 graduate of NYU College of Dentistry, is chairman of the Hansjörg Wyss Department of Plastic Surgery and Helen L. Kimmel Professor of Reconstructive Plastic Surgery at the NYU Langone Medical Center. He also serves as clinical professor of oral and maxillofacial surgery at NYU Dentistry.

In March 2012, Dr. Rodriguez led a medical team at the University of Maryland Medical Center in an unprecedented total facial transplantation and maxillofacial reconstruction. When he joined the faculty of NYU Langone in November 2013, one of his goals was to develop and launch a facial transplantation program, and in August 2015, he and his team performed the most complex and comprehensive face transplant to date in a 26-hour surgery. The recipient was a first responder, 41-year-old Patrick Hardison of Senatobia, Mississippi, who experienced extensive facial burns in September 2001, in the line of duty as a volunteer firefighter. More than 100 physicians, nurses, technical staff, and support staff collaborated on this procedure.

Dr. Robert S. Glickman, professor and chair of the Department of Oral and Maxillofacial Surgery, presented the Maislen Award to Dr. Rodriguez, who thanked the College and the Department of Oral and Maxillofacial Surgery, and said, “When I met Patrick and heard his story, I knew that I had to do all I could to help him — and every member of my team felt the same way. We could not have helped Patrick without amazing teamwork, and my training in dentistry and in oral and maxillofacial surgery was critical to our success as a team.”

“Young Leaders Series” Spotlights Junior Faculty and Administrators

In July 2015, Dr. Maureen McAndrew, clinical professor of cariology and comprehensive care and senior director of professional development, introduced a “Young Leaders Series” as a means of spotlighting the achievements of junior faculty and administrators from across the College and increasing networking opportunities for them. “The series provides the perfect opportunity for rising faculty and administrators to showcase their work, reflect on their careers, and connect with peers,” says Dr. McAndrew.

Since its inception, the “Young Leaders Series” has presented a variety of topics, ranging from building one’s professional reputation to overcoming generational barriers in the workplace. Presenters during the 2015–2016 academic year included Dr. Aaron Soeprono, clinical instructor of cariology and comprehensive care and group practice director; Dr. Edmund Khoo, clinical assistant professor of orthodontics; Dr. Matthew Malek, clinical assistant professor of endodontics and director of the Advanced Education Program in Endodontics; Dr. Marjan Moghadam, clinical assistant professor of prosthodontics; Dr. Serena Kassam, clinical assistant professor of pediatric dentistry; and Ms. Rachel Hill, senior director of global outreach and international initiatives.
Dr. Alexis L. Cohen, ’12, has been appointed a clinical assistant professor of pediatric dentistry. Dr. Cohen holds a DDS degree and an MS in Public Health from New York University, and earned a postgraduate certificate in pediatric dentistry from Columbia University/New York Presbyterian Hospital.

Dr. Melani H. Kapetanakos, formerly a prosthodontist in private practice, has been appointed a clinical assistant professor of prosthodontics.

Dr. Sharvari Karande has been appointed a clinical assistant professor of prosthodontics.

Dr. James Keenan has been appointed a clinical assistant professor of oral and maxillofacial pathology, radiology and medicine.

Mr. Steven Lin, formerly a clinical analyst at the Rutgers School of Dental Medicine, has been appointed technology manager for Technology and Informatics Services (TIS).

Ms. Neyda Lopez, formerly senior assistant director for graduate enrollment services at the NYU Graduate School of Arts and Science, has been appointed director of admissions.
Ms. Kristen Miller, formerly an associate at a private law firm in Los Angeles, California, has been appointed assistant director for global outreach programs.

Mr. Cristián Opazo, formerly senior instructional technologist at NYU Global Technology Services, has been appointed senior instructional technologist. Mr. Opazo holds a BS degree in physics from the University of Chile and an MS degree in physics from Michigan State University.

Dr. Rachel Badovinac Ramoni, formerly assistant professor of oral health policy and epidemiology at the Harvard School of Dental Medicine, has been appointed assistant professor of epidemiology and health promotion. Dr. Ramoni holds a DMD degree from the Harvard School of Dental Medicine, and an ScM and ScD in epidemiology from the Harvard School of Public Health.

Dr. Cristian Stefan has been appointed a clinical professor in the Department of Basic Science and Craniofacial Biology. Dr. Stefan holds an MD degree from the Carol Davila University of Medicine and Pharmacy in Bucharest, Romania, and is a Harvard Macy Faculty Scholar.

Ms. Roma Virani has been appointed director of dental insurance strategy and claim adjudication management. Prior to joining the College, Ms. Virani was executive vice president of the dental division at Stratose, Inc., formerly known as Coalition America, Inc. She holds a bachelor’s degree in dental surgery from the University of Bombay and an MBA in healthcare management from the University of Connecticut.
Ms. Rhonda Alphonso, formerly assistant director of grants administration and business operations, has been promoted to director of grants administration and business operations.

Dr. Bradley E. Aouizerat, professor of oral and maxillofacial surgery, has been appointed deputy director of the Bluestone Center for Clinical Research.

Mr. Ivan Cornejo, formerly a group practice academic coordinator, has been promoted to director of instrumentation and supply management.

Dr. John Dolan, research assistant professor of oral and maxillofacial surgery, has been appointed associate director of research and development for the Bluestone Center for Clinical Research.

Dr. Debra Ferraiolo, clinical assistant professor of oral and maxillofacial pathology, radiology and medicine, has been appointed director of patient admissions.

Ms. Jean Giordano, formerly associate director of communications and public affairs, has been promoted to director of communications and public affairs.
Dr. Marc A. Henschel, clinical assistant professor of oral and maxillofacial pathology, radiology and medicine, has been appointed director of the special needs clinic.

Ms. Edda Higuita, formerly a dental assistant with the dental hygiene program, has been promoted to lead dental assistant for pediatric dentistry.

Ms. Rachel Hill, formerly director of global outreach and international initiatives, has been promoted to senior director of global outreach and international initiatives.

Ms. Maryna Levina, formerly assistant director of the NYU Dental Faculty Practice, has been promoted to director of the faculty practice.

Dr. Matthew Malek, clinical assistant professor of endodontics, has been appointed director of the Advanced Education Program in Endodontics.

Ms. Irene D. Olshan, formerly a department administrator in clinical affairs, has been promoted to director of clinical services administration.
Ms. Hervely Pierre, formerly a patient service representative, has been promoted to academic administrator for the Office of Academic Affairs.

Dr. Andrew Schenkel, clinical associate professor of cariology and comprehensive care and former associate director of community-based education and patient care, has been promoted to assistant chair for community-based education in the Department of Cariology and Comprehensive Care.

Dr. Analia Veitz-Keenan, clinical associate professor of oral and maxillofacial pathology, radiology and medicine, has been appointed director of evidence-based dentistry in the Department of Epidemiology and Health Promotion.

Mr. Christopher Alan Wilson, formerly a patient service representative, has been promoted to group practice academic coordinator in the Department of Cariology and Comprehensive Care.

Ms. Sarah Yoon, formerly adjunct clinical instructor of dental hygiene, has been promoted to clinical instructor of dental hygiene.

Ms. Rosie Domenech, formerly an administrative aide, has been promoted to IT regulatory and operations analyst.

Mr. Joseph Pellicciari, formerly department administrator in the Department of Endodontics, has been promoted to director of Linhart Continuing Dental Education Program.

Congratulations also to:

Mr. Joseph Pellicciari, formerly department administrator in the Department of Endodontics, has been promoted to director of Linhart Continuing Dental Education Program.
NYU Dentistry Extends a Warm Welcome to Its Newest Part-time Faculty

Department of Cariology and Comprehensive Care
Dr. Neil D. Berman, adjunct clinical instructor
Dr. Luis A. Blanco, clinical instructor
Dr. Samer Chahine, clinical instructor
Dr. Sharde Harvey, clinical instructor
Dr. Max T. Huang, adjunct instructor
Dr. Myron R. Klein, clinical instructor
Dr. Kloidana F. Marzari, clinical instructor
Dr. Duy Nguyen, adjunct associate professor
Dr. Shahram Shekib, clinical instructor

Dental Hygiene Program
Ms. Paula Gelvez-Petrone, clinical instructor
Mr. Thomas E. Gorrell, adjunct instructor
Ms. Rebecca Jacobs, adjunct clinical instructor
Ms. Mary Jane Butac Livingston, adjunct clinical instructor

Department of Endodontics
Dr. Simronjeet Basati, adjunct assistant professor
Dr. Anthony J. Carter, adjunct clinical instructor
Dr. Rick C. Moser, adjunct clinical instructor

Department of Epidemiology and Health Promotion
Dr. Hend Salah El Sayed, adjunct assistant professor
Dr. Juliana Kim, adjunct assistant professor
Dr. Paul R. Warren, adjunct associate professor

Department of Oral and Maxillofacial Pathology, Radiology & Medicine
Dr. Monica Smiddy, adjunct assistant professor
Dr. Samantha P. Wolff, clinical instructor
Dr. Aaron E. Yancoskie, adjunct instructor

Department of Oral and Maxillofacial Surgery*
Dr. Rajesh Adhia, adjunct clinical instructor
Dr. Rohima Ahmed, adjunct clinical instructor
Dr. John Albano, adjunct clinical instructor
Dr. Yuliya Alterman, adjunct clinical instructor
Dr. Charles Azzaretti, adjunct clinical instructor
Dr. Jessica Barzideh, adjunct clinical instructor
Dr. Babak Bina, adjunct clinical instructor
Dr. Robert B. Bowe, adjunct clinical instructor
Dr. Jeffrey Burns, adjunct clinical instructor
Dr. Julie Cernigliaro, adjunct clinical instructor
Dr. Sheldon Chu, adjunct clinical instructor
Dr. Gina Cucchiara, adjunct clinical instructor
Dr. Georgia Dellas, adjunct clinical instructor
Dr. Anna D’Emilio, adjunct clinical instructor
Dr. Susan Lynn Dietrich, adjunct clinical instructor
Dr. Anthony DiMango, adjunct clinical instructor
Dr. Asmaa Elmaria, adjunct clinical instructor
Dr. Marina Fainberg, adjunct clinical instructor
Dr. Dawn-Marie Felicetti, adjunct clinical instructor
Dr. Danielle Fridline, adjunct clinical instructor
Dr. Lawrence Friedman, adjunct clinical instructor

Dr. Beeren Gajjar, adjunct clinical instructor
Dr. Einat Galar, adjunct clinical instructor
Dr. Lynn Gargano, adjunct clinical instructor
Dr. Robert Goldberger, adjunct clinical instructor
Dr. Barry Goodman, adjunct clinical instructor
Dr. Larry Green, adjunct clinical instructor
Dr. Betty Greenspan, adjunct clinical instructor
Dr. Sol Haber, adjunct clinical instructor
Dr. Bethany Harris, adjunct clinical instructor
Dr. Marc Hendler, adjunct clinical instructor
Dr. Susan Hernandez, adjunct clinical instructor
Dr. Lawrence Jerrold, adjunct clinical instructor
Dr. Jonathan M. Kamen, adjunct clinical instructor
Dr. Daniel J. Kane, adjunct clinical instructor
Dr. Nicholas S. Katchen, adjunct clinical instructor
Dr. Sonia Kohli, adjunct clinical instructor
Dr. Rishi Kothari, adjunct clinical instructor
Dr. Marc Kunin, adjunct clinical instructor
Dr. Nadia Laniado, adjunct clinical instructor
Dr. Ann Layvey, adjunct clinical instructor
Dr. Martin Lieberman, adjunct clinical instructor
Dr. Bonita Lippman-Hoskins, adjunct clinical instructor
Dr. Frances McEntee, adjunct clinical instructor
Dr. Victor Mercado, adjunct clinical instructor
Dr. Lara J. Merker-Eisen, adjunct clinical instructor
Dr. David M. Okuji, adjunct clinical instructor
Dr. Richard L. Oshrain, adjunct clinical instructor
Dr. Rakhee C. Patel, adjunct clinical instructor
Dr. Constantine G. Pavlakos, adjunct clinical instructor
Dr. Gisele F. Richard, adjunct clinical instructor
Dr. James Rodriguez, adjunct clinical instructor
Dr. Sagar Shah, adjunct clinical instructor
Dr. Kent D. Strickman, adjunct clinical instructor
Dr. Omar Suarez, adjunct clinical instructor
Dr. Bernard Tolpin, adjunct clinical instructor
Dr. Helen Tong, adjunct clinical instructor
Dr. Angieszka Toth, adjunct clinical instructor
Dr. Clara Tzau, adjunct clinical instructor
Dr. Genevieve Uzoaru, adjunct clinical instructor
Dr. Diane M. Wong, adjunct clinical instructor
Dr. Boris Zats, adjunct clinical instructor

Department of Pediatric Dentistry
Dr. Bieke Kreps, adjunct instructor
Dr. Jacqueline E. Zamani, clinical assistant professor

Department of Periodontology and Implant Dentistry
Dr. Thierry E. Abitbol, clinical assistant professor

Department of Prosthodontics
Dr. Andrew W. Boyd, clinical assistant professor
Dr. Justin Inkoo Chung, clinical assistant professor
Dr. Michael G. Donovan, adjunct clinical instructor
Dr. Benjamin T. Neren, adjunct clinical instructor

*Indicates joint appointment at NYU College of Dentistry and NYU Langone Medical Center.
A Conversation with Stanley Bergman, Chairman and CEO of Henry Schein, Inc.

Mr. Stanley Bergman, Chairman and CEO of Henry Schein, Inc., sat down recently with Dr. Mark Wolff, associate dean for development, to discuss the roots of his personal and corporate philanthropy. Their conversation follows.

**Dr. Wolff:** Stan, you are the CEO of a Fortune 500 company with a record of corporate philanthropy, and your family has been extremely generous in support of philanthropic causes around the world. Can you tell our readers what motivates your philanthropy?

**Mr. Bergman:** A commitment to giving back to society is a deeply ingrained part of our family’s values and has been reinforced by various life experiences. In our family’s religious tradition of Judaism, there is a concept of “tikkun olam,” which means that each of us has a responsibility to do our part to “repair the world.” There are similar concepts in many other religions. My parents instilled this value in me, and my wife, Marion’s, parents did the same for her. In turn, we have worked hard to instill this value in our children.

“Our commitment to giving back to society is a deeply ingrained part of our family’s values and has been reinforced by various life experiences.”

Our family history and our life experiences have reinforced this commitment. My parents fled Nazi Germany for South Africa some 80 years ago. Even as the South African government provided refuge for our family, it wasn’t long before our family witnessed evil again, in the form of the apartheid regime. Growing up in South Africa and witnessing the horrors of apartheid deepened Marion’s and my understanding of and commitment to promoting equality and human dignity for all. We left South Africa early in our professional careers to raise a family in a free society where all people have the opportunity to choose their destiny and live by their own personal values. Over the past four decades living in America, we have deeply appreciated how much is possible here in this land of opportunity.

Finally, Henry and Esther Schein, the founders of our company, and their son Jay, were a tremendous inspiration to me personally in the realm of corporate social responsibility. Their commitment to giving back to society was central to their conception of success for Henry Schein. Their example deepened my understanding of the opportunity to integrate this commitment into the core identity of the Company.

**Dr. Wolff:** What is the greatest motivation for you to continue your philanthropic efforts?

**Mr. Bergman:** Fortunately, my professional endeavors and my personal philosophy of giving back to society have always been aligned. As I described earlier, Henry Schein’s commitment to making a positive contribution to the world dates back to the very founding of our Company as a small drugstore in Queens, New York, by Henry and Esther Schein in 1932. Despite the challenges of the Great Depression, they found ways to give back to their neighbors in need, and instilled in Team Schein a culture of caring that has grown ever stronger over the course of more than eight decades.
Today, Henry Schein is the world’s largest provider of healthcare products and services to office-based dental, medical, and animal health practitioners. More than 19,000 Team Schein members in 33 countries serve more than a million customers around the world. As the size of our global business has grown, so has the scope of our global corporate social responsibility program, Henry Schein Cares.

In reflecting on my personal motivation — as well as the motivation of Team Schein — to sustain our deep commitment to giving back to society, I would say that we are driven to do this work every day because we see the tremendous difference that each and every one of us can make in improving the lives of those in need.

Dr. Wolff: What is the Henry Schein Cares philosophy of corporate social responsibility?

Mr. Bergman: Henry Schein Cares was established based on the philosophy of enlightened self-interest — a belief that the Company can “do well by doing good.” To do this, we strive to be a higher ambition company — one that views our path to long-term success as paved by our commitment to a value system which balances the needs of our five constituencies (Team Schein, customers, supplier partners, investors, and society).

This philosophy requires a strategy of corporate social responsibility that creates shared value between our company and society. Giving back to society is not about doing “charity” in this view — it is a key part of our identity as a company and tied into all of our relationships with the key constituents that drive our success. Ultimately, we believe that this model builds deep, trust-based relationships in the service of society as well as shareholder value.

Dr. Wolff: Could you provide some examples of that philosophy in action?

Mr. Bergman: We create shared value by harnessing our own core competencies in the service of society while catalyzing our key constituents to do the same. To do this, we carry out the work of Henry Schein Cares primarily through the establishment of innovative public-private partnerships with all segments of the healthcare community — private industry, clinicians, professional associations, and academic institutions — as well as governments, local communities, and non-governmental organizations (NGOs).

The impact of Henry Schein’s core competencies — which include our extensive health product offerings, supply chain expertise and capabilities, and our close relationships with customers, supplier partners, and other members of the healthcare community — becomes exponentially more effective when coupled with the unique contributions of our other partners. Henry Schein Cares seeks to be the “hub” of the wheel of these partnerships — a catalyst organization that mobilizes our partners to contribute the skills and resources for which they are best suited. This model provides a pathway for participation for all of our partners and capitalizes on our collective strength.

Dr. Wolff: What is the relationship between Henry Schein Cares and the Henry Schein Cares Foundation?

Mr. Bergman: Formally founded in 2001 (although born out of roots firmly planted since our Company’s founding in 1932), Henry Schein Cares’ mission is to “help health happen” by expanding access to care for at-risk and underserved populations around the world.
The work of Henry Schein Cares focuses on three areas under the access-to-care umbrella: wellness, prevention, and treatment; emergency preparedness and relief; and capacity building. In addition to this work in the area of access to care, Henry Schein Cares is also the umbrella for the other areas of our corporate social responsibility work, including our environmental sustainability efforts, our work to engage our team, and our efforts to maintain a corporate environment built on ethics and values.

Separately (and yet closely related), we founded the Henry Schein Cares Foundation in 2008 as an independent 501(c)(3) nonprofit organization to mobilize a wide variety of resources in pursuit of our mission to enhance access to care.

**Dr. Wolff:** Philanthropy extends beyond donating funds — it includes supporting and leading philanthropic organizations and causes with your time, energy, and wisdom. How do you find the time in your busy schedule to offer your energy and thoughtful resources to so many important organizations?

**Mr. Bergman:** It is an interesting question because I don’t really think of giving back to society as a separate and distinct effort from my professional life or even my family life. This commitment is intertwined throughout all of these aspects of my life, so for me, it is not about “finding time.” It is really about ensuring that this value is woven throughout the tapestry of various aspects of my life.

**Dr. Wolff:** Stan, you credit your background with motivating your philanthropy. Is this philosophy of philanthropy something that we can teach to or learn from others?

**Mr. Bergman:** I believe most people have a desire to make a positive contribution to the world. For many, the difficulty comes in figuring out the best way to translate this motivation into action. In my view, it is not about “teaching” others to have the desire to give back, but rather it is about providing pathways for individuals, organizations, and other companies to do so.

**Dr. Wolff:** Henry Schein Cares and NYU College of Dentistry have had a long and fruitful partnership, especially in the area of global health outreach. What have been some of the highlights of that partnership for Henry Schein Cares and for you, personally?

**Mr. Bergman:** Our long-term partnership with NYU College of Dentistry over the past two decades in the social responsibility realm is a source of pride for all of us at Team Schein.

This year marks the eighth anniversary of the NYU College of Dentistry/Henry Schein Cares Global Student Outreach Program, which provides oral health care education, emergency dental services, screenings, prevention, sealant application, and restorative treatment to underserved communities throughout the United States and around the world. We are pleased to donate all of the dental supplies for this program, and to support the efforts of NYU College of Dentistry volunteers, including faculty and students, who provide pro bono care. Together, we have provided free care to tens of thousands of underserved people who may not otherwise have been able to access oral health care.

In 2010, we celebrated the opening of the Henry Schein Cares Wing at the NYU College of Dentistry. Henry Schein was very pleased to donate equipment, technology, and healthcare supplies to support the establishment of the clinic, including 56 dental chairs for the care of patients in the community. This patient population happens to be one of the most ethnically and culturally diverse patient populations in the country.

Another area of partnership between Henry Schein and NYU has been our work together for many years to increase oral cancer awareness and enhance diagnosis. The Henry Schein Cares Foundation was pleased to support the Global Oral Cancer Forum, a first-of-its-kind event, which took place at New York University’s Kimmel Center in March. This forum brought together many of the world’s foremost experts on oral cancer, including clinicians, scientists, epidemiologists, activists, public health experts, nonprofit organizations, government agencies, and others, to explore ways to reduce the disease’s global impact.
We are also pleased to support the New York City Community research program, Carried Away, led by Dr. Richard Niederman, NYU Dentistry’s chair of the Department of Epidemiology and Health Promotion.

Henry Schein’s partnership with NYU through these and other initiatives contributes to the training and education of our nation’s future oral healthcare professionals and supports their service to the oral healthcare needs of the public. These programs foster a culture of public service among your exceptional student body, which will serve to “help health happen” for many years to come. This is indeed a privilege for us, and we are deeply grateful to all of the outstanding NYU dental faculty and students that we have the good fortune to work with.

Dr. Wolff: Can you provide some additional examples of programs that Henry Schein Cares is involved in, and the relationship of these programs to your partnership model?

Mr. Bergman: The power of our public-private partnership model is clearly seen in so many of our programs, but I will share just a few examples here.

One example in the area of oral health is the Give Kids A Smile program, Henry Schein’s partnership with the ADA Foundation, our supplier partners, and clinicians/dental team volunteers. This partnership has resulted in free oral health care for approximately half a million underserved children around the US each year over the past decade.

In another example, we created our Alpha Omega–Henry Schein Cares Holocaust Survivor Oral Health Program to answer a call to action by the White House. We partner with local social service agencies to identify eligible survivors; Alpha Omega International Dental Fraternity dental members provide pro bono dental care; Henry Schein — which catalyzed the partnership — donates dental supply kits and professional support; Town & Country Dental Studios — the program’s laboratory partner — donates laboratory services, if required; and several philanthropic partners have generously contributed the financial resources necessary to administer the program.

On the medical side, we have a number of programs, including our Global Supply Network for Pandemic Preparedness and Response. Born out of a desire to overcome some of the challenges the world faced in effectively responding to the Ebola crisis, Henry Schein catalyzed a partnership together with the UN World Food Programme, UNICEF, the World Health Organization, the World Bank, the US Centers for Disease Control and Prevention, and the University of Minnesota in the public sector, as well as Becton Dickinson, Johnson & Johnson, and UPS from the private sector, among others. Together, we have identified the top 62 critical healthcare and other products needed for a more effective response, and we are working to have a virtual supply available for future pandemics we face.

Another area of focus for Henry Schein Cares is building awareness among clinicians and patients of the integral connection between oral health and overall health. For example, our Healthy Lifestyles, Healthy Communities program, through which we partner with the National Association of Community Health Centers (NACHC) to enhance access to health care, prevention, and wellness for underserved communities, provides free medical and dental screenings at fun and engaging community events around the country.

We also have a number of programs in the animal health arena, including our partnership with Canine Companions for Independence, the first and largest assistance dog organization in the United States helping people with physical disabilities. Canine Companions “puppy raisers” and the veterinarian who cares for the dog receive a “Henry Schein Cares-Canine Companions Puppy Raiser Care Package” stocked with the products essential for raising the puppy during the first 18 months of life.

Dr. Wolff: Thank you for your time, Stan.

Mr. Bergman: Thank you, Mark, for this opportunity. There is no question that NYU College of Dentistry and Henry Schein Cares will continue to build upon our exceptional partnership for many, many years to come. We have accomplished so much together already, and there are so many new opportunities for us to “help health happen” together.
NYU Bluestone Center for Clinical Research and UCLA Awarded $2.4M from NIH to Study Non-Psychotropic Cannabinoids for Cancer Pain

Researchers will investigate therapeutic utility of recently developed synthetic cannabinoids that promise pain relief without psychotropic effects in oral cancer patients.

Oral cancer patients generally suffer from more severe pain than patients with other types of cancer. Oral cancer pain is currently treated with opioids (drugs that are molecularly similar to the active chemical in opium). Unfortunately, patients develop tolerance to opioids. Subsequently, ever-larger doses are needed for pain relief; large opioid doses produce debilitating side effects, including sedation and constipation. Synthetic and naturally occurring cannabinoids (CBs) might effectively relieve cancer pain and generate fewer side effects. Until recently, however, cannabinoids produced undesirable psychotropic effects (mediated by the activation of central nervous system CB1 receptors).

The purpose of the study funded by a five-year, nearly $2.5 million R01 grant from the National Institutes of Health/National Cancer Institute (NIH/NCI), is to test drugs termed peripherally-restricted cannabinoids (PRCBs) — a novel class of cannabinoids that act on the peripheral nervous system but not on the brain. Because these drugs don't act on the central nervous system, no psychotropic effects accompany a pain-relieving therapeutic dose. Pain reducing properties of PRCBs will be evaluated in patients with oral cancer pain or chemotherapy-induced peripheral neuropathic pain.

“To refine our understanding of PRCBs, we will perform pharmacokinetic studies and elucidate receptor targets of these drugs with tissue-specific transgenic mice,” said Brian L. Schmidt, DDS, MD, PhD, professor of oral and maxillofacial surgery and director of NYU’s Bluestone Center for Clinical Research and the NYU Oral Cancer Center. “We will measure the speed with which synthetic cannabinoids move through the body; chart the time-course of absorption, bioavailability and distribution within the tissues; and measure the rate at which this drug is metabolized.” Researchers will also evaluate whether PRCBs reduce tumor size. Ultimately, this new class of drug might prove useful for treating other forms of chronic pain as well. ■
The National Institute of Dental and Craniofacial Research (NIDCR), part of the National Institutes of Health (NIH), has awarded Drs. Brian Schmidt and Seiichi Yamano a $1.2 million, three-year grant to test whether their nonviral gene delivery method can effectively and safely treat oral cancer pain.

Quality of life for oral cancer patients can be dismal. “Most of my oral cancer patients have severe pain,” says Brian L. Schmidt, DDS, MD, PhD, professor of oral and maxillofacial surgery and director of NYU’s Bluestone Center for Clinical Research and the NYU Oral Cancer Center. “A recent study revealed that oral cancer pain is often more severe than pain from any other type of cancer.”

Due to their severe pain, oral cancer patients have difficulty eating, drinking, or talking, leaving doctors with little or no choice other than to prescribe high doses of opioid medications.

“The clinical challenge of treating oral cancer pain is then compounded by the off-target effects produced by pharmacological agents which lack anatomical specificity,” notes Dr. Schmidt, “since high opioid doses generate unwanted side effects that create additional unintended suffering for the patient.”

“Gene therapy is emerging as an exciting alternative to opioids for the treatment of cancer pain,” says Seiichi Yamano, DDS, PhD, DMD, MMSc, associate professor of prosthodontics. “We seek to alleviate oral cancer pain by reversing epigenetic changes. Our gene therapy method will set the stage for a new class of medicines that selectively disrupt nociceptive signaling with fewer off-target effects. Our long-term goal is to develop an effective and safe treatment for oral cancer pain.”

Dr. Schmidt’s research team demonstrated that OPRM1 (the gene for the µ-opioid receptor) is methylated and down-regulated in oral cancer tumors. They also demonstrated that OPRM1 re-expression following viral gene transduction significantly reduced cancer pain in a preclinical model. Expression of the µ-opioid receptor on the cancer led to the secretion of opioids into the cancer microenvironment.

Because of safety concerns and viral transduction inefficiency, Dr. Yamano created two novel nonviral hybrid vectors: a cell-permeable peptide (CPP) combined with either a cationic lipid (CPP/lipid) or a cationic polymer (CPP/polymer). These nonviral vectors have excellent transfection efficiency with little cytotoxicity across a range of cell lines, including different types of cancer cells.

“In addition to their transfection efficiency, my nonviral vectors preferentially transfect oral cancer cells compared to normal cells,” says Dr. Yamano. “Transfection efficiency using the nonviral vector in oral cancer cells showed eightfold more gene transfer than normal cells and higher expression than that for an adeno viral vector.”

“Dr. Yamano and I collaborated over the last five years in preparation for the work described in this current grant,” notes Dr. Schmidt. “I found that delivery of the OPRM1 gene into the cancer reversed cancer pain. I just needed a safe method to deliver the gene. Dr. Yamano’s nonviral method is ideal. Our previously awarded bridge funding allowed us to develop preliminary data for the application. Our long-term goal is to develop an effective and safe treatment for oral cancer pain. These studies are a significant step toward that goal. We foresee clinicians directly inoculating our nonviral vector into oral cancers.”
NYU College of Dentistry has been awarded a five-year, $1.7 million Health Resources and Services Administration (HRSA) training grant entitled “Preparing the Future Dental Workforce for Underserved Young Child and Adolescent Populations.”

The grant will address two national problems: the inadequate supply of an available dental workforce that can provide primary dental care services for poor, minority, and socially vulnerable pediatric populations; and insufficient training in disease management approaches within predoctoral dental (DDS) and dental hygiene (DH) education that can prepare graduates to provide sustainable solutions to improve health outside traditional surgical models of care.

“This grant will enhance our ability to train students to care for underserved children both here in New York City, and once these students enter practice, throughout the world,” said Dr. Amr M. Moursi, professor and chair of the Department of Pediatric Dentistry.

“Preparing the Future” is a collaboration among the College’s Office of Allied Health Programs and the Departments of Pediatric Dentistry and Epidemiology and Health Promotion. The grant seeks to address the lack of available dental workforce for vulnerable and underserved pediatric populations by enhancing the curriculum for 1,156 DDS students and 65 DH students annually through a series of initiatives extending throughout their respective four-year and two-year programs.

The following three objectives with related activities are proposed:

1. **Enhanced pediatric dental curriculum**: NYU Dentistry will create and deliver a novel blended learning pediatric dental curriculum for DDS and DH students, focusing on exposing these students to vulnerable pediatric populations, and novel approaches to improve oral health and access to services.

2. **Enhanced pediatric clinical training**: DDS and DH students will participate in community-based clinical experiences with training in intraoral imaging, teledentistry, and interprofessional approaches to health services through collaborative learning.

3. **Student leadership development**: DDS and DH student leaders will participate in extramural faculty-mentored underrepresented minority recruitment and student leadership activities which include: leadership training events, online certificate-granting coursework in public health, an interprofessional clerkship, and student-led community projects.

Measured outcomes will include 1) quantitative post-activity self-reflections, 2) school-wide entrance and exit surveys measuring attitudes and behavioral intent to provide care for underserved populations, and 3) electronic surveys of dental graduates about practice location and career opportunities.

The project was highlighted in the January 2016 issue of Access.
NYU Dental Researchers Awarded Four-Year, $1.6M Grant from NIH to Study the Biological and Physiological Effects of e-Cigarettes’ Electronic Aerosol Mixtures

The National Institute of Dental and Craniofacial Research (NIDCR), part of the National Institutes of Health (NIH), has awarded Dr. Deepak Saxena, associate professor of basic science and craniofacial biology, and Dr. Xin Li, assistant professor of basic science and craniofacial biology, a four-year, $1.6 million NIDCR grant to study the biological and physiological effects of electronic cigarettes’ aerosol mixtures on oral health.

Colloquially referred to as “e-cigs” and “vapes,” electronic cigarettes and vaporizers have seen breakthrough market shares in recent years. Yet despite their popularity, the safety of aerosol mixtures emitted by these devices remains unknown. According to data from the Centers for Disease Control and Prevention (CDC), three million middle and high school students actively used electronic cigarettes in 2015.

To increase its regulatory authority over these devices, the Food and Drug Administration (FDA) requires safety data on the compounds found in the water vapor they emit, namely formaldehyde (which is known to cause cancer), lead, nitrosamines, and propylene glycol. The grant received by Professors Saxena and Li was one of seven such grants awarded by the NIDCR to promote and improve understanding of how aerosol mixtures emitted by e-cigarettes impact the oral cavity. The initial host interaction of aerosol mixtures produced by e-cigarettes occurs largely in the oral cavity, where exposure to aerosolized nicotine and other components is highest.

“Based on compelling data from our preliminary research, we hypothesize that e-cig aerosol mixtures disrupt the oral cavity’s microenvironment, increasing vulnerability to periodontal disease,” said Dr. Saxena.

“Smoking is a major risk factor for periodontal diseases, immuno-suppression, and impairment of soft tissue and bone cell function. The prospective study we proposed to the NIDCR entails the enrollment of 120 subjects, consisting of 40 nonsmokers, 40 subjects who regularly smoke cigarettes but do not use e-cigs, and 40 subjects who exclusively use e-cigs, and study of the effect of e-cig aerosol on periodontal health,” said Dr. Li.

The researchers will recruit and stratify members of the e-cig group by the type of disposable e-cig and amount of cartridge they consume per week. Baseline saliva and subgingival plaque samples will be collected from all 120 subjects, and once more six months after depositing baseline samples, and dysbiosis in oral microbiome will be determined. Oral exams will be done at both visits.

“To determine the mechanism by which e-cig aerosol affects oral health, we will design a novel 3D epigingival tissue model to mimic the oral microenvironment,” added Dr. Li.

“This study will be the first to determine the adverse health effects of e-cig use on oral health. The outcomes will aid the NIH-NIDCR in evaluating the oral health risk and the regulation of e-cigs,” said Dr. Saxena.

The study’s co-investigators include Dr. Malvin Janal of the NYU College of Dentistry, and Drs. Patricia Corby, Erica Queiroz, Donna Shelley, Yindalon Aphinyanaphongs, and Terry Gordon, of the NYU School of Medicine.
Dr. Jean-Pierre Saint-Jeannet Awarded Five-Year, $2M NIH Grant to Study Cellular Processes Responsible for Generating Sensory Organs

Research has broad implications for interventional prenatal development and regenerative medicine, with regard to sensory defects.

The National Institutes of Health (NIH) has awarded Dr. Jean-Pierre Saint-Jeannet, professor of basic science and craniofacial biology, a five-year, $2 million grant to study the cellular processes ultimately responsible for the generation of sensory organs, including the optic lens, the olfactory epithelium (tissue in the nasal cavity that is responsible for smell), and the inner ear.

Dr. Saint-Jeannet's research focuses on the formation of cranial placodes, which are thickenings of the outermost layer of tissue located in the head of the developing embryo. Cranial placodes make vital contributions to the paired sensory organs, differentiating into diverse cell types such as sensory neurons, lens fibers, and hormone-secreting cells.

"Defects in cranial placode development cause a wide array of human congenital malformations ranging from blindness, deafness and anosmia (loss of the sense of smell), to hormone imbalance and orofacial sensory deficits," says Dr. Saint-Jeannet. "By determining the conditions requisite for the emergence of cranial placode progenitors, we can better understand these congenital malformations."

Dr. Saint-Jeannet’s previous research found that retinoic acid, a derivative of vitamin A, may play an important role in the process.

“Our immediate goals are to elucidate the mechanisms by which retinoic acid regulates the development of the placode progenitors, and define the factors that cooperate with retinoic acid to generate the full spectrum of cranial placode derivatives,” says Dr. Saint-Jeannet.

The study — which will define the interplay of signaling molecules controlling cranial placodes formation — has broader implications for both prenatal development and regenerative medicine. Among its long-term goals is the identification of therapeutic targets to treat congenital malformations in utero and minimize sensory defects at birth. Furthermore, the study may provide valuable information to help differentiate human embryonic stem cells into placode progenitors with distinct developmental potentials. Ultimately, these cells could be used in cell replacement therapies in pediatric and adult patients to correct sensory deficits.
Dr. Bradley E. Aouizerat Receives NIH Award to Study Epigenetic Markers of Age and Diurnal Levels of Fatigue During Chemotherapy

Research builds on recently collected phenotypic and molecular data to examine the interrelationships of these data among women at high risk for morning and evening fatigue.

The NIH has awarded Dr. Bradley E. Aouizerat a grant of more than $400,000 to study the potential of DNA methylation, an epigenetic marker that captures aggregate responses to genetic and environmental exposures, to become a novel and accurate biomarker that can be used to examine the biological adaptations to aging and diurnal (morning and evening) variations for fatigue in women with breast cancer.

“Fatigue is one of the most common and severe symptoms reported in oncology patients, particularly in women with breast cancer,” says Dr. Aouizerat, professor of oral and maxillofacial surgery and deputy director of the NYU Bluestone Center for Clinical Research. Fatigue occurs not only in oncology patients undergoing active treatment, but persists into survivorship. Fatigue is associated with decreases in quality of life and results in significant decreases in function and lost productivity. Fatigue increases with age and is more pronounced in women. Fatigued cancer survivors display physiological functioning similar to individuals two decades older.

Building on his research team’s recently collected in-depth phenotypic (morning fatigue, evening fatigue, clinical, treatment, demographic) and molecular (DNA methylation) data, Dr. Aouizerat’s study will examine these interrelationships in a high-risk sample (women with breast cancer) to gather compelling preliminary data for a comprehensive investigation of the epigenomic mechanisms involved in morning and evening fatigue. Findings from this study and future work will provide insights into the large amount of interindividual variability in morning and evening variability in fatigue. In addition, while patients with breast cancer are the initial model for this work, he envisions an examination of these relationships in patients with other chronic conditions. “Most importantly,” says Dr. Aouizerat, “this line of inquiry will address important gaps in our understanding of the biological mechanisms that underlie the interrelationships among morning and evening fatigue and aging.”
Rheonix, in Collaboration with NYU College of Dentistry, to Pursue Rapid Zika Virus Diagnostic with Additional Funding from National Institute of Dental and Craniofacial Research

Rheonix, Inc., a developer of fully automated molecular testing solutions, in collaboration with New York University College of Dentistry, has received an administrative supplement of $656,414 to an existing Small Business Innovation Research (SBIR) Phase I/II Fast-track grant from the National Institute of Dental and Craniofacial Research (NIDCR) of the National Institutes of Health (NIH), to develop a rapid diagnostic for Zika virus infection. The grant will allow the Rheonix/NYU team to pursue the development of a fully automated self-screening and confirming assay that will simultaneously detect and confirm the Zika virus presence in a single, small sample of saliva or blood.

The assay will be performed on the Rheonix Chemistry and Reagent Device, or Rheonix CARD®. Once a raw sample is placed on the Rheonix CARD, the automated platform runs with no user intervention through the process of sample extraction, purification, amplification, and detection. This eliminates the need for multiple pieces of existing equipment, helping to make the testing process quicker, more efficient, less expensive, and less likely to result in human error.

“As we continue to demonstrate the utility of our novel microfluidic-based technology, we remain committed to deploying the technology to address global health needs,” said Dr. Greg Galvin, CEO and chairman at Rheonix. “Addressing the Zika virus certainly fits the bill given the elevated health alerts issued throughout the world.”

In February 2016, the World Health Organization (WHO) declared the Zika virus a public health emergency of international concern. According to the Centers for Disease Control and Prevention (CDC), Zika virus disease is caused by Zika viruses that are spread to people primarily through the bite of an infected Aedes species mosquito, but transmission from mother to child, through sexual contact, and through blood transfusion has also been reported. According to the NIH, there is a tentative link between Zika virus infections in pregnant women and microcephaly, a condition characterized by a small head and brain, in their newborn babies. In addition, a possible connection exists between Zika infection and Guillain-Barré syndrome, a condition in which the immune system attacks parts of the peripheral nervous system.

The parental SBIR grant has led to Rheonix’s successful development of a new diagnostic capable of simultaneously detecting anti-HIV antibodies and viral RNA in the same specimen.

“We have had a long-standing and very productive collaborative relationship with Dr. Dan Malamud’s laboratory at NYU College of Dentistry and it has been through those efforts that we successfully developed the dual assay for anti-HIV antibodies and viral RNA,” said Dr. Richard Montagna, senior vice president for scientific and clinical affairs at Rheonix, and the principal investigator on the grant. “It seemed to be a logical extension of those efforts to attempt the same approach for Zika virus, and we were pleased that the NIDCR agreed with our proposed approach.”

Dr. Malamud, professor of basic science and craniofacial biology, noted that “the Zika virus appears to disappear from blood in 6–10 days, but is still detectable in saliva and urine. Anti-Zika antibodies can be detected several days after infection. A combined RNA and antibody test will enable detection of both early and late Zika virus infections.”
Dr. Daniel Malamud, professor of basic science and craniofacial biology at NYU College of Dentistry, and Dr. Yong-Ak Song, assistant professor of mechanical/biomedical engineering at NYU Abu Dhabi, have been awarded an NYU Global Seed Grant for their project entitled “Miniaturized Point-of-Care Molecular Diagnostic Device for Rapid and Accurate Detection of Malaria in Low-Resource Settings.” Global Seed grants are awarded by a new NYU research seed fund to support multi-campus/global research collaborations between the schools at NYU in New York and the portal campuses at NYU Abu Dhabi and NYU Shanghai, to develop research capacities across campuses, to gain outlook and knowledge in institutional settings, and possibly to serve as a platform for obtaining future extramural funding. The grant provides $75,000 per year for two years.

Dr. Malamud and Dr. Song will build a miniaturized point-of-care diagnostic chip device that is portable and requires only a minimal volume of blood from a finger stick for specific detection of malarial DNA. The assay utilizes isothermal nucleic acid amplification and loop-mediated isothermal amplification (LAMP) that uses heating of the amplification reaction at a constant temperature of 65°C. The novelty of this approach is that the LAMP assay does not require isolation of DNA, and, as a result, blood samples can be assayed directly. The approach is highly sensitive for Plasmodium falciparum, a protozoan parasite that causes malaria in humans.

Every year, malaria continues to affect millions of lives around the world, especially in developing countries. The development of a rapid, accurate, and sensitive diagnostic method for the identification of pathogens is crucial in treating and controlling, or even eradicating, malaria.

This research builds on earlier investigations conducted by Dr. Malamud and his team to develop a smart chip which can immediately detect a person’s exposure to the HIV virus. The premise of their research is that if a person’s HIV status can be detected instantly using this smart-chip device, the person can be treated quickly using an HIV antiviral therapy before secondary effects, such as contagion, malaria, and tuberculosis, can set in.

The development of a rapid, accurate, and sensitive diagnostic method for the identification of pathogens is crucial in treating and controlling, or even eradicating, malaria.
NYU College of Dentistry Professors Awarded Three-Year, $1.8M Grant to Evaluate Models for Reviewing Maltreatment Cases Among Army Personnel

The National Institute of Food and Agriculture (NIFA), a branch of the United States Department of Agriculture (USDA), has awarded Dr. Richard Heyman and Dr. Amy Slep, both professors of cariology and comprehensive care, a three-year, $1.8 million grant to evaluate models for reviewing maltreatment cases among army personnel.

Dr. Heyman and Dr. Slep’s study will test and evaluate three models for reviewing and determining maltreatment (domestic and child abuse) cases among army personnel and their families through a multifaceted analysis drawing from multiple sources of data, feedback, and information.

“This research is of high importance to soldiers and their family members, as accountability, protection, intervention, and prevention promote ready and resilient families,” says Dr. Heyman. This project also serves the broader civilian community, in that community members can implement translatable results from the study.

In addition, the research has implications for commanders and unit leaders, who respond more effectively when they perceive the case review process as fair. In addition, unit leaders are uniquely positioned to serve as outreach and family advocates. Army and Department of Defense (DOD) leadership will also benefit from Dr. Heyman and Dr. Slep’s review, as they are responsible for examining and responding to domestic trends.

Drs. Heyman and Slep codirect the College’s Family Translational Research Group. One of the key emphases of the group’s work is on translating basic knowledge into prevention and treatment and on improving adoption of evidence-based practices.
Drs. Slep and Heyman Awarded $780K from NIH to Study Coercive Conflicts in Relation to Adverse Health Outcomes, Including Dental Caries, Obesity, and Diabetes

The National Institutes of Health (NIH) has awarded Drs. Amy Slep and Richard Heyman a $780,000 grant to build upon their existing research on the roles corrosive couple conflict (CCC) and parent-child coercion can play in disease outcomes.

Coercive conflict is a specific conflict pattern common in families where two parties, whether a couple or parent and child, find themselves in a cycle of escalating unpleasant, angry, or even violent behavior until one party ultimately concedes to stop the conflict.

“Such domestic hostility constitutes a potent and destructive — but modifiable — interpersonal poison to upstream and downstream health,” says Dr. Slep. Several studies have documented significant impairment in patients’ adherence to medical regimens, including those for diabetes, as a result of CCC.

“Patient non-adherence to medical regimens is one of the major barriers to the successful treatment of both diabetes and oral health,” adds Dr. Heyman.

In their proposal to the NIH, “Targeting Corrosive Couple Conflict and Parent-Child Coercion to Impact Health Behaviors and Regimen Adherence,” Drs. Slep and Heyman establish a framework for developing interventions to reduce specific elements of CCC and coercion, including the experienced emotion and behavioral observations.

In the next phase of the proposed study, the team will test whether reduction in these targets results in improvement in adherence and other health behaviors pertaining to diabetes and oral health, such as eating, drinking, and self-care.

New York Alumni Society of Alpha Omega Supports Dean’s Scholarship Fund

The New York Alumni Society of Alpha Omega, the philanthropic arm of the New York Branch of the Alpha Omega International Dental Fraternity, has donated $1,500 to the Dean’s Scholarship Fund. Dr. Gail Schupak, clinical associate professor of orthodontics, is shown presenting the check to Dean Bertolami as scholarship recipient Dr. Daniel Rozen looks on.
NYU College of Dentistry Announces New State-of-the-Art Endodontic Clinical Suite

Announced at Gala Celebrating the 90th Anniversary of NYU College of Dentistry’s Quartararo Department of Endodontics.

New York University College of Dentistry, in collaboration with Dentsply Sirona, the world’s largest manufacturer of professional dental products and technologies, is proud to announce a new, fully equipped endodontic clinical suite that will employ the most advanced educational and patient care technologies available. Dr. Charles N. Bertolami, Herman Robert Fox Dean of NYU Dentistry, announced this collaboration on June 15, at a gala in Manhattan celebrating the 90th anniversary of the Dr. Ignatius N. and Sally Quartararo Department of Endodontics, the oldest department of endodontics in the nation. In recognition of this partnership, the new clinical suite will be named the Dentsply Sirona Endodontic Clinical Suite.

Dean Bertolami said, “NYU College of Dentistry is grateful to Dentsply Sirona for its commitment to advancing excellence in endodontic education, research, and patient care. With our new state-of-the-art facility, NYU will have one of the most sophisticated endodontic clinical suites in the nation, thus ensuring our ability to provide the finest endodontic education and to help alleviate patients’ suffering in a manner that reflects truly patient-centered care.”

The clinical suite will feature a fully integrated computer network with best-practice case management software, along with a fully equipped, state-of-the-art surgical suite; fully equipped restorative and endodontic treatment centers; intraoral digital X-ray stations; state-of-the-art endodontic motors; ultrasonic units; intraoral sensors; and a Cone Beam Computed Tomography (CBCT) scanner, utilizing state-of-the-art scanning technology to produce 3D images of teeth, soft tissues, nerve pathways, and bone in a single scan.

Jeffrey T. Slovin, CEO of Dentsply Sirona, said, “Dentsply Sirona believes that our next generation of endodontists and general practitioners should have the opportunity to learn in the most innovative training facilities with the latest technology available. We couldn’t be more excited to enter into this collaboration with the NYU College of Dentistry, one of the most advanced dental schools in the world, and thereby continue to support the profession through research and education.”

Dean Bertolami added, “It is altogether fitting that we announce this collaboration at the celebration of the 90th anniversary of the establishment of the department of endodontics at NYU, as it ensures that the department will continue to play a leadership role in endodontic specialty training in the future as it has in the past.”

The suite will also house two full-time continuing education programs, the Programs for International Dentists in comprehensive care and in esthetics. Construction on the suite has begun, and NYU Dentistry plans to open the Dentsply Sirona Endodontic Clinical Suite in early September 2016.
Dr. Evgeny Pavlov Receives American Heart Association Award to Study Novel Stroke Treatment

Dr. Evgeny Pavlov, assistant professor of basic science and craniofacial biology, has received an award of nearly $200,000 from the American Heart Association (AHA) to investigate the molecular mechanisms of the development of mitochondrial permeability transition pore (mPTP), a large non-selective channel located in the mitochondrial inner membrane. During stress conditions, prolonged opening of the mPTP leads to an increase in permeability of the mitochondrial membrane, disruption of energy generation in the form of ATP (Adenosine triphosphate), and eventually to cell death, making mPTP opening the central event leading to tissue damage during stroke. Thus, mPTP has the potential to become a very effective target for drug treatment of strokes. However, knowledge about the molecular composition of the mPTP remains incomplete, which has prevented its use as a pharmacological target. The central goals of Dr. Pavlov’s research are to answer the question of the molecular identity of mPTP and to help elucidate the mechanisms leading to the development of mPTP.

Dr. Pavlov and his team will investigate the possibility that mPTP assembles from two polymers, polyphosphate and polyhydroxybutyrate, in combination with a specific protein (C subunit of ATP synthase), and will test whether or not mPTP and stress-induced cell death can be prevented by decreasing levels of these polymers in the cell or by disruption of their interaction with the C subunit protein.

According to Dr. Pavlov, “Our investigations will significantly advance our knowledge about one of the central processes occurring in the cell during stress-induced death. Understanding of the molecular mechanisms of mPTP formation and activation will set an essential basic science foundation for the future development of its specific inhibiting compounds. These pharmacological compounds can be used for protection against tissue damage under conditions of stroke and ischemia/reperfusion injury. Since improved stroke treatment is a priority for the AHA, this study is highly relevant to its mission.”
THE WALL STREET JOURNAL interviewed Dr. Mark Wolff, professor and chair of the Department of Cariology and Comprehensive Care and associate dean for predoctoral clinical education and for development, about “Adult braces – Who should get them? Who doesn’t need them? Are they really necessary?” The Wall Street Journal also interviewed Dr. Wolff for a story entitled “Simple Dental Treatments May Reverse Decay.”

KIPLINGER’S PERSONAL FINANCE AND INVESTING NEWS featured Dr. Wolff in an article on selecting dental insurance plans and the importance of getting a second dental opinion.

WEB MD interviewed Dr. Mark Wolff for a story about foods and habits that stain your teeth.

DOCTOR RADIO broadcast its sixth annual weeklong series on oral health entitled “Start Your Summer with a Smile.” The program was hosted by Dr. Mark Wolff. The live, call-in program featured a range of topics and NYU dental experts, including “New Directions in Dental Implants” with Dr. Peter Loomer, clinical professor and chair of the Ashman Department of Periodontology and Implant Dentistry; “What’s New in Root Canal?” with Dr. Asgeir Sigurdsson, associate professor and chair of the Dr. I.N. and Sally Quartararo Department of Endodontics; “Everyday Habits That Can Harm Teeth” with Dr. Angela De Bartolo, clinical assistant professor of cariology and comprehensive care, and Dr. Bill Bongiorno, clinical instructor in cariology and comprehensive care; “Kids Dental Health and Tips for Parents” with Dr. Courtney Chinn, clinical associate professor of pediatric dentistry; and “High-tech Dentistry” with Dr. Martin Prager, clinical instructor in cariology and comprehensive care.

YAHOO.COM interviewed Dr. Wolff to ask “What happens when you don’t brush your teeth for months?” and for a story commenting on a study about whether fillings could be doing more harm than good.

DOCTOR RADIO featured separate interviews with Dr. Wolff on aesthetic dentistry; Dr. Amr Moursi, associate professor and chair of the Department of Pediatric Dentistry, on children’s dental health; Dr. Vera Tang, clinical assistant professor of periodontology and implant dentistry, on the relationship between oral hygiene and heart health/overall general health; Dr. Bill Bongiorno, on aesthetic dentistry, dental implants, and digital dentistry; Dr. David Hershkowitz, clinical associate professor and associate chair of the Department of Cariology and Comprehensive Care, on aesthetic dentistry; Dr. Robert Glickman, professor and chair of the Department of Oral and Maxillofacial Surgery, on TMJ pain; and Dr. Peter Loomer, on the links between periodontal disease and heart disease.

THE HUFFINGTON POST quoted Dr. Wolff in a story about causes of and treatment for halitosis.

OPRAH.COM interviewed Dr. Wolff for a story about what your mouth can reveal about your general health.

NPR interviewed Dr. Wolff on oral health and aging.

McCLATCHY NEWSPAPERS interviewed Dr. Wolff for a story about amalgam fillings.

MEN’S HEALTH MAGAZINE interviewed Dr. Wolff to ask, “Should Men Bleach Their Teeth?” and for a story on “Why Your Gums Bleed After You Brush Your Teeth.”

LIFE BY DAILY BURN HEALTHY LIVING.COM interviewed Dr. Wolff about the use of activated charcoal to clean and whiten teeth and whether or not there is scientific evidence to support this practice.

CBS NEWS interviewed Dr. Wolff for a story about the potential dangers of wisdom teeth extraction for teenagers.

YAHOO PARENTING interviewed Dr. Robert Glickman on the same topic.
THE NEW YORK POST interviewed Dr. Amr Moursi for a story on giving children a lifetime of good oral health.

THE ASSOCIATION OF HEALTH CARE JOURNALISTS interviewed Dr. Moursi for a story entitled “'Freezing' Cavities: A Potential Alternative to 'Drill-and-Fill.'”

THE BALTIMORE SUN interviewed Dr. Moursi for a story on the potential of silver diamine fluoride to “freeze” cavities to stop them from worsening.

THE WASHINGTON POST

We need to get children who are enrolled and eligible for services to actually get them.”

— Dr. Amr Moursi, associate professor and chair of the Department of Pediatric Dentistry, in an article in The Washington Post entitled “Many Children with Medicaid Are Not Getting Required Dental Care.”

DISCOVER MAGAZINE interviewed Dr. Timothy Bromage, professor of biomaterials and of basic science and craniofacial biology, for a story entitled “What’s the Chin Good for?”

UNIVISION interviewed Dr. Bromage for a story on the molecular components of samples of drinking water from throughout the US. Professor Bromage conducted his analysis of the water samples using one of only six mass spectrometers in the US that are capable of analyzing every chemical in the water supply.

UNIVISION also featured a website editorial, “Sugar, Enemy of Children’s Dental Health,” coauthored by Dr. Richard Niederman, professor and chair of the Department of Epidemiology and Health Promotion.

HEALTH & MEDICINE WEEK featured an NYU College of Dentistry study detailing the effects that training can have on the skills retained by third-year dental students as they enter their fourth year. The study was led by Dr. Hillary Broder, professor of cariology and comprehensive care.

THE BOSTON GLOBE featured Dr. Brendan O’Connor, clinical assistant professor of oral and maxillofacial surgery, in a documentary on former altar boys in Northern Ireland.

USA TODAY quoted Dr. Marci Levine, clinical assistant professor of oral and maxillofacial surgery, in an article on veterans receiving care in the VA system.

DR. OZ MAGAZINE interviewed Dr. Peter Loomer, about an observational study that suggested a potential link between periodontal disease and breast cancer.

READER’S DIGEST quoted Dr. Walter Bretz, adjunct associate professor of cariology and comprehensive care, for a story on causes and prevention of bad breath.

KCTV NEWS featured Dr. Nancy Dougherty, adjunct clinical associate professor of pediatric dentistry, in a story entitled “At what age can kids start brushing their own teeth?”

NPR RADIO PHILADELPHIA interviewed Dr. Andrew Spielman, professor of basic science and craniofacial biology and associate dean for academic affairs, for a segment on the history of dentistry as it relates to dental insurance.

THE BOSTON GLOBE carried a story on how health professions schools are teaming up to teach students to work in interprofessional teams. The story featured NYU’s College of Dentistry and Rory Meyers College of Nursing.

THE DAILY MAIL OF LONDON featured research by Dr. Rodrigo S. Lacruz, assistant professor of basic science and craniofacial biology, on facial growth differences in Neanderthals and in modern humans.

THE DAILY COURIER featured Dr. Kenneth Aschheim, adjunct clinical associate professor of cariology and comprehensive care, in an article entitled “Computers Construct a Better Crown.”
On May 26, 2016, the Class of 2016, including more than 400 candidates for the Doctor of Dental Surgery degree, AAS and BS degrees in dental hygiene, MS degrees in biomaterials and in clinical research, and Advanced Education Program certificates saw their dreams come true as they received their degrees and certificates before an audience of nearly 4,000 people in The Theater at Madison Square Garden.

Both Dr. Andrew Hamilton, the 16th and current president of New York University, and Dr. Robert Berne, NYU’s executive vice president for health, brought greetings on behalf of the University. President Hamilton also participated in the conferral of degrees and personally congratulated each candidate.

An added highlight of the occasion was the presentation of the David B. Kriser Medal, the highest honor awarded by NYU College of Dentistry, to Major General Thomas R. Tempel, Jr., Commander of the Western Regional Medical Command and Chief of the US Army Dental Corps. A graduate of both Gettysburg College and the University of Maryland Dental School, Major General Tempel was honored for his leadership on behalf of the much praised “Go First Class” initiative, which provides a first-class oral healthcare environment for soldiers.
“Major General Tempel has assembled teams of commissioned and non-commissioned officers as well as civilians to focus on prevention as the foundation of the dental healthcare system,” said Dean Bertolami.

In a “first” for an NYU College of Dentistry Graduation Ceremony, Major General Tempel personally commissioned six members of the Class of 2016 as newly minted officers in the US Armed Forces.

Class Representative Meredith Looney spoke on behalf of the dental hygiene programs and Dr. Evan Matthisse represented the DDS program. Alumni Association President Dr. William Bongiorno, ’73, brought greetings from the Alumni Association, telling the graduates, “We have developed a sense of family and you have created friendships that will last throughout your lives.”

“The NYU College of Dentistry celebrates the achievements of our newest alumni, of the faculty, families, and friends who have guided them to this momentous day, and of our distinguished Kriser Medal recipient,” said Dean Bertolami.

“Getting to this day has taken more than hard work, dedication, and discipline,” Dean Bertolami told the graduates. “It has also taken a commitment to educational excellence, a strong public service orientation, and a growing global perspective, all of which have made this class so special. We wish our graduates great success and happiness in the years ahead,” he concluded.
Dr. Analia Veitz-Keenan, clinical associate professor of oral and maxillofacial pathology, radiology and medicine and director of evidence-based dentistry in the Department of Epidemiology and Health Promotion, has received the prestigious NYU Distinguished Teaching Award. The NYU Distinguished Teaching Award recognizes that, along with research, exceptional teaching, both within and outside the classroom, is among NYU’s institutional priorities. Dr. Veitz-Keenan is one of only five faculty members University-wide to receive the award this year.

Dr. Veitz-Keenan’s teaching expertise is in the area of evidence-based dentistry, an approach to health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence relating to the patient’s oral and medical condition and history, in concert with the dentist’s clinical experience and the patient’s treatment needs and preferences. In 2011, Dr. Veitz-Keenan’s evidence-based advocacy motivated her to take the lead in initiating a partnership between NYU College of Dentistry and The Cochrane Collaboration, which produces such assessments. Known as Cochrane Reviews, these assessments are internationally recognized as the gold standard in evidence-based health care and healthcare education. As a consequence of this partnership, NYU Dentistry has been designated the first North American training site for The Cochrane Oral Health Group Global Alliance, which produces Cochrane Reviews dedicated specifically to assessments of the scientific literature related to oral health.

Under Dr. Veitz-Keenan’s leadership, the College’s partnership with The Cochrane Collaboration has produced a solid framework for training faculty to conduct systematic literature reviews and to incorporate an evidence-based approach directly into dental education, thereby strengthening the clinical competence of future dentists. Indeed, the extraordinarily high scores that NYU dental students consistently receive on national board examinations testify to the impact that evidence-based training is having on their competency, with NYU dental students raising the bar for performance standards nationally. In recognition of her leadership in this area, Dr. Veitz-Keenan was designated director of NYU College of Dentistry's Cochrane Collaboration Project.

Innovation in the service of excellence in teaching is in fact a hallmark of Dr. Veitz-Keenan’s professional commitment. Indeed, she has
New Issue of the
Journal of the
Academy of
Distinguished
Educators
Online Now

A new issue of NYU Dentistry’s online, open-access magazine, the Journal of the Academy of Distinguished Educators (JADE), is online now at http://dental.nyu.edu/faculty/academy-of-distinguished-educators/jade.html.

JADE is the publications component of the NYU Academy of Distinguished Educators. JADE invites experts in higher education to face off on the thorny issues confronting higher education as it endeavors to foster interdisciplinary and interprofessional education.

The theme of the new issue of JADE is “The Impact of the Electronic Health Record (EHR) on Dental Education.”

The issue focuses on the benefits and challenges involved in the use of EHRs in dental education, including the ability to more closely integrate medical and dental services to provide patient-centered care. It addresses the uncertainty regarding the impact of EHRs on students’ abilities to develop critical-thinking skills and on instructors’ capacities to assess student competencies.

The issue features introductions from the 2016 Chair of the Academy of Distinguished Educators Dr. Analia Veitz-Keenan, clinical associate professor of oral and maxillofacial pathology, radiology and medicine and director of evidence-based dentistry, and from the incoming JADE editorial board chair Dr. Silvia Spivakovsky, clinical associate professor of oral and maxillofacial pathology, radiology and medicine; guest editorial by Dr. Debra Ferraiolo, clinical assistant professor of oral and maxillofacial pathology, radiology and medicine; a centerpiece article by Dr. Muhammad Walji of the University of Texas Health Science Center at Houston School of Dentistry; and commentaries by Dr. Heiko Spallek of the University of Sydney and by Dr. Rachel Ramoni of NYU College of Dentistry and Harvard.

demonstrated exceptional leadership in this area not only on behalf of an evidence-based approach to dental education but also on behalf of the College’s Academy of Distinguished Educators, both as a member of the Academy’s Executive Committee and as its current chair.

The Academy of Distinguished Educators, founded in 2010, is an expression of the College’s commitment to excellence in teaching, learning, and scholarship. Central to the vision of the Academy is the idea that teaching and learning are fundamental to the core mission of the College and that faculty members should be valued for their contributions in these areas.

In her leadership role with the Academy, Dr. Veitz-Keenan has been instrumental in achieving the Academy’s goals. These goals include advancing the art and science of teaching and learning at the College; stimulating interest in teaching practice, change, innovation, and scholarship; and networking and collaborating with educators both within and beyond the College to share best practices. Dr. Veitz-Keenan’s contributions to all of these areas are inseparable from the success and prestige that the Academy enjoys.

Commenting on the award, Dean Bertolami said, “Analia Veitz-Keenan understands that the secret to success in healthcare education is a synthesis of scholarly expertise, the dynamic delivery of evidence-based materials, and a focus on outcomes and on nurturing intellectual joy and enthusiasm in students.”

NYU College of Dentistry congratulates Dr. Veitz-Keenan on receiving this wonderful, well-deserved award in tribute to a master of the art of teaching.
2016 Research Scholarship Expo Combines Annual Student Research Days and Clinical & Educational Scholarship Showcase

NYU Dentistry’s Research Scholarship Expo, held from April 20 to 22, 2016, showcased the research and scholarship of 173 pre- and postdoctoral dental students, dental hygiene students, master’s degree students, research scholars, and clinical faculty who submitted ePosters, 45 of whom won awards. The event, a combination of two former research exhibitions — the Annual Student Research Days and the Clinical & Educational Scholarship Showcase — was a collaboration of the Office of Research and the Academy of Distinguished Educators.

Dr. John T. McDevitt, professor and chair of the Department of Biomaterials, was the keynote speaker at the 2016 Research Scholarship Expo. Dr. McDevitt presented his research on point-of-care diagnostic testing for oral cancer. In recognition of his research, Dr. McDevitt received the inaugural Kathleen C. Kinnally Outstanding Scientific Achievement Award.

“Dr. McDevitt was selected to receive the Kathleen C. Kinnally Outstanding Scientific Achievement Award in recognition of the success he has had in translating essential bioscience discoveries into real-world clinical practice. His work in the development of ‘programmable bio-nano-chip’ technologies has been an inspiration to all of us at NYU College of Dentistry,” said Vice Dean for Research and Academic Affairs Dr. Louis Terracio.

“This partnership could not have come at a better time, as the Research Scholarship Expo offers a broader view of the wide-ranging and impactful research being conducted by students and faculty in programs across the College,” said Dr. William Eidtson, former executive director of the NYU Academy of Distinguished Educators.

The College congratulates Dr. McDevitt and all of the Research Scholarship Expo award recipients, whose names, presentations, and mentors are listed on the following pages.
Dean’s Award for Outstanding Presentation
Juliana Gomez, ’18
Assessment of free Ca2+ uptake and mitochondrial signaling
Faculty Advisor: Dr. Evgeny Pavlov, Dept. of Basic Science and Craniofacial Biology

Outstanding Presentation by a Postdoctoral Associate
Melanie Bauchle, Dept. of Biomaterials
Total Elemental and Composition of Water
Faculty Advisor: Dr. Timothy Bromage, Dept. of Biomaterials

Best Presentation by a Master’s Program Scholar
Pablo Atria, Dept. of Biomaterials
Long Bone Regeneration Using 3D Printed Bioactive Molecules Coated Bioceramic Scaffolds
Faculty Advisor: Dr. Paulo Coelho, Dept. of Biomaterials

Best Presentation by a Research Scholar
Zhiming He, Dept. of Basic Science and Craniofacial Biology
Pulsed Electromagnetic Fields (PEMF) Enhance Osteoblastic Differentiation of Human Bone Marrow Stromal Cells by Activation of MicroRNA21 Expression and the TGF-β Signaling Pathway
Faculty Advisor: Dr. Nicola Partridge, Dept. of Basic Science and Craniofacial Biology

Best Basic Science Presentation by a Predoctoral Student
Juliana Gomez, ’18
Assessment of free Ca2+ uptake and mitochondrial signaling
Faculty Advisor: Dr. Evgeny Pavlov, Dept. of Basic Science and Craniofacial Biology

Best Clinical Science Presentation by a PG Resident
Joao Barbosa, Dept. of Biomaterials
Reliability and Failure Modes in narrow-diameter implants presenting a hybrid internal connection
Faculty Advisor: Dr. Paulo Coelho, Dept. of Biomaterials

Best Clinical Research Presentation by a Research Scholar
John Brewster, Dept. of Biomaterials
Long-Term Bonding Efficacy: 3 CAD Restoratives x 2 Universal Adhesives
Faculty Advisor: Dr. Yu Zhang, Dept. of Biomaterials

Violent Jonathan A. Ship Award for Translational Research
Michelle Bowers, ’19
Effect of Type 2 diabetes on mechanical properties of bone: in vivo
Faculty Advisor: Dr. Paulo Coelho, Dept. of Biomaterials

The Racquel Z. LeGeros Research Award in Biomaterial Research
Mehrnaz Golmakani, ’17
Effect of Plasma Treatment on Impression Material Wettability
Faculty Advisor: Dr. Ronaldo Hirata, Dept. of Biomaterials

OKU – Dr. Michael C. Alfano Award for Excellence in Research
Stacy Davidyants, ’19
The role of nacre intracrystalline protein AP7 in the mineralization of aragonite
Faculty Advisor: Dr. John Evans, Dept. of Basic Science and Craniofacial Biology

NYU Dentistry Student Research Group Award
Titus Son, ’19
Edge-chipping Resistance of Zirconia, Glass-ceramic and Porcelain
Faculty Advisor: Dr. Yu Zhang, Dept. of Biomaterials
OFFICE OF RESEARCH AWARDS (continued)

Best Clinical Science Presentation by a Predoctoral Student
Jonathan Morcos, ‘19
Assessing Osteointegration of Dental Implants with Boronized Surface Treatment
Faculty Advisor: Dr. Paulo Coelho, Dept. of Biomaterials

Best Clinical Case Study Poster by a Predoctoral Student
Lauren Hale, ‘16
Hematopoietic Stem Cell Transplant, Myelodysplastic Syndrome and Dentistry: An Interdisciplinary Approach
Faculty Advisor: Dr. Marc Henschel, Dept. of Oral and Maxillofacial Pathology

Best Epidemiology and Health Promotion Presentation by a Predoctoral Student
Stephanie Colaiacovo, ‘17
Prevalence of White Spot Lesions in Orthodontic Patients
Faculty Advisor: Dr. George Cisneros, Dept. of Orthodontics

ADA/Dentsply Student Research Award
Student will present a poster at the ADA Student Clinician Research Program in Denver Colorado, October 2016
Ifrana Zaman, ‘17
Interaction of Schwann Cells and Head and Neck Squamous Cell Carcinoma
Faculty Advisor: Dr. Brian Schmidt, Dept. of Oral and Maxillofacial Surgery

Best Clinical Science Presentation by a Predoctoral Student
Teruyo Nakatani, Dept. of Basic Science and Craniofacial Biology
The effect of osteoblast-specific knockout of Hdac4 on cortical bone
Faculty Advisor: Dr. Nicola Partridge, Dept. of Basic Science and Craniofacial Biology

Honorable Mention – Presentation by a Research Scholar
Michelle Castroagudin, ‘19
Targeted disruption of ephrinB1 in osteoblasts and osteocytes impair bone acquisition
Faculty Advisor: Dr. Shoshana Yakar, Dept. of Basic Science and Craniofacial Biology

Honorable Mention – Presentation by a Postdoctoral Associate
Marina Kaizer, Dept. of Biomaterials
Silica coating of non-silicate nanoparticles for improved resin composites
Faculty Advisor: Dr. Yu Zhang, Dept. of Biomaterials

Honorable Mention – Presentation by a Postdoctoral Associate
Minglei Zhao, Dept. of Biomaterials
Strong Translucency Ultrafine Alumina Ceramics for Next Generation Dental Restorations
Faculty Advisor: Dr. Yu Zhang, Dept. of Biomaterials

Honorable Mention – Basic Science Presentation by a Predoctoral Student
Yoav Nudell, ‘18
Designing a Novel Method for Simultaneous Audio and Dynamic Magnetic Resonance Imaging of the TMJ
Faculty Advisor: Dr. Robert Glickman, Dept. of Oral and Maxillofacial Surgery

Honorable Mention – Basic Science Presentation by a Predoctoral Student
Manish Rao, ‘19
Alveolar Ridge Augmentation Prototype Development with Robocast Technology
Faculty Advisor: Dr. John Ricci, Dept. of Biomaterials

Honorable Mention – Basic Science Presentation by a Predoctoral Student
Maor Sokol, ‘19
Evaluating the biocompatibility of BioRoot in vitro
Faculty Advisor: Dr. Emi Shimizu, Dept. of Basic Science and Craniofacial Biology

Best Presentation by Dental Hygiene Team
Jessica Carotenuto, Brittany Kerwick, and Caitlin Romanowski, AAS in Dental Hygiene, ‘16
Female Hormones and the Impact of Alveolar Osteitis
Faculty Advisors: Rosemary Hays and Cynthia Howard, Dental Hygiene Program

Honorable Mention – Presentation by Dental Hygiene Team
Michael Bani, Aman Chugh, and Xiao-Qing Fung, AAS in Dental Hygiene, ‘16
The Efficacy of Mouthguards in Preventing Facial and Head Traumas
Faculty Advisor: Kellie Kennedy, Dental Hygiene Program
**Best Educational Scholarship Poster**
Courtney Chinn, DDS, MPH, Dept. of Pediatric Dentistry
*Preparing the Future Dental Workforce for Underserved Young Child and Adolescent Populations (“Preparing the Future”)*

**Best Clinical Case Study Poster by Faculty**
Sonal S. Shah, DDS, Dept. of Oral and Maxillofacial Pathology, Radiology and Oral Medicine
*Hermansky-Pudlak Syndrome: A Rare Case Report with Dental Considerations*

**Best Educational Scholarship Poster by a PG Resident**
Abrer Demyati, Noora M. Al Juhani, and Hassan M. Alkharaan (Programs for International Dentists)
*A systematic review of student engagement with audience response system in health professional education*
Faculty Advisors: Dr. Maureen McAndrew and Dr. Analia Veitz-Keenan, Teaching in Dental Education (TIDE)

**Honorable Mention – Educational Scholarship Poster by a Predoctoral Student**
William Kwon, ‘17
*Study Preferences and Technology, What We Really Know*
Faculty Advisor: Dr. Silvia Spivakovsky, Dept. of Oral and Maxillofacial Pathology, Radiology and Medicine

**Best Literature Review Poster by a PG Resident (International Programs)**
Stefano Di Matteo (Programs for International Dentists)
*Jaw Defects after Osteolytic Lesions, Filling or Not? A Review*
Faculty Advisor: Dr. Robert Glickman, Dept. of Oral and Maxillofacial Surgery

**Best Literature Review Poster by a Predoctoral Student**
Rola Rabah, ‘17, and Fadhel Gazala, ‘17
*Cleft lip/Cleft palate risk factors and the benefits of early risk assessment screening in a dental setting*
Faculty Advisor: Dr. Serena Kassam, Dept. of Pediatric Dentistry

**Best Clinical Case Study Poster in Periodontics**
Arshin Hotchandani (Programs for International Dentists)
*Sequential treatment planning in complicated case*
Faculty Advisor: Dr. Peter Loomer, Dept. of Periodontology and Implant Dentistry

**Honorable Mention in Implant Dentistry**
Tarek Hafez (Programs for International Dentists)
*Focal Thickness of Schneiderian Membrane and Its Clinical Implications*
Faculty Advisor: Dr. Edwin Rosenberg, Dept. of Periodontology and Implant Dentistry

**Best Clinical Case Study Poster in Prosthodontics**
Liliana Ortiz (Advanced Education Program)
*Management of Amelogenesis Imperfecta in Adolescent Patients*
Faculty Advisor: Dr. Mijin Choi, Jonathan & Maxine Ferencz Advanced Education Program in Prosthodontics

**Best Clinical Case Study Poster in Endodontics**
Kaveh Pajouhan (Advanced Education Program)
*Regenerative Endodontic Procedures for Mature Teeth with Necrotic Pulps*
Faculty Mentor: Dr. Louis Lin, Dept. of Endodontics
As an undergraduate at the University of California, Los Angeles, Alex Sy, DDS, ’16, majored in bioengineering. He loved science and research, and knew that his path might eventually lead to dental school. Alex comes from a family of dentists and can remember looking on as his father, James, a Los Angeles-based orthodontist, showed projector slides on treatment options and oral hygiene to patients. Moreover, Alex’s older brother, Frank, is a 2015 graduate of NYU College of Dentistry’s Advanced Education Program in Periodontics.

After graduating from UCLA with a BS in bioengineering, and still undecided about pursuing a dental degree, Alex took a job as a research assistant at City of Hope’s renowned cancer treatment and research center. While there, Alex worked in a lab investigating oncogenesis under the supervision of Dr. Yun Yen, a noted oncologist, and he coauthored a paper with Dr. Yen which was published in *Nature*. Although Alex enjoyed his work at City of Hope, he ultimately decided that practicing dentistry was the way to go.

In 2012, Alex enrolled at NYU College of Dentistry, where his brother, Frank, was already studying. The brothers had actually planned on attending NYU Dentistry at the same time. “It was my first time leaving the West Coast,” says Alex, “and it was comforting to know that my brother and I would be able to share an apartment and experience the city together.”

At NYU, Alex’s passion and drive led him to contribute to the College and the broader community in many ways, including as a teaching assistant for first-year classes, a peer mentor in the Advanced Standing Program, a participant in the NYU Dentistry/Colgate-Palmolive Student Leadership Retreat, the Student Leadership Track Program, and the NYU College of Dentistry/Henry Schein Cares Global Student Outreach Program, where he provided dental care to children and adults in the rural, underserved community of La Preciosita, Mexico.
Alex has further demonstrated his leadership abilities as an officer of the Chinese Student Dental Association, which organizes local outreaches as well as social events.

Alex also discovered that he has a passion for teaching. “I am not thinking about if I am ever going to teach, but rather when I will be able to start teaching,” he says.

Alex’s future plans also include private practice. But first, he will be pursuing postdoctoral studies in orthodontics at the Saint Louis University Center for Advanced Dental Education.

One of the things that Alex values most about his education at NYU is the strong clinical background it has given him. “I really cherish the excellent training I’ve had and have worked really hard to become a good general practitioner,” says Alex. “A general practice background is very comprehensive, which is why it is such an important foundation for specialty training.”

Dr. Steven Resnick, clinical assistant professor of cariology and comprehensive care, served as Alex’s group practice director. “I worked with Alex in the clinic, and he is a phenomenal student,” says Dr. Resnick. “He is kind, passionate, pays attention to detail, and is totally patient-centered.”

“Dr. Resnick influenced me greatly,” says Alex. “Because I come from an engineering background, I like to know why things are done in a certain way. Dr. Resnick always explained the reason for doing things when formulating treatment plans and figuring out the best way to help patients.”

While at NYU, Alex also took advantage of the opportunity to build on his interest in applied research. He worked under Dr. Paulo Coelho, associate professor of biomaterials and Linkow Associate Professor of Implant Dentistry, in the biomaterials lab, where he helped develop a protocol for analyzing bone remodeling using micro-CT and Amira 3D software analysis with the goal of reducing sample data time from a typical three-month period to a three-week period.

“Working in Dr. Coelho’s lab was familiar and different at the same time,” says Alex. “In the cancer research lab at City of Hope, I was working with cells; in the materials lab, I was working mainly with nonliving organisms. Dr. Coelho showed me another dimension to research.”

Dr. Silvia Spivakovsky, clinical associate professor of oral and maxillofacial pathology, radiology and medicine, who taught Alex in the third-year elective course “Honors in Clinical Pharmacology” and in the fourth-year “Senior Comprehensive Care” course, also had a great influence on him.

“Professor Spivakovsky emphasizes the importance of making clinical decisions based on scientific evidence,” says Alex. “She taught me how to closely read scientific literature and to identify the most important takeaway.”

Looking to the future, Alex plans to move back to Los Angeles and most likely join his father’s practice. His brother, Frank, is planning on doing the same. “My brother is a periodontist and I’ll be an orthodontist — a good combination,” he says.
When Bisera Van Cott came to New York in 2004, she planned to stay for one year and then return to her hometown of Podgorica, the capital of Montenegro, in the Balkans. At the time, Bisera was 25 years old and had come to the US via an exchange program to work as an au pair and to experience New York. A month before she was to fly home, she met a Manhattan dentist in need of an office manager/dental assistant. Bisera, who had worked for four years as a dental assistant in an oral surgeon’s office in Montenegro, was offered the office manager/dental assistant position in New York City. She immediately decided to accept the offer and canceled her flight home.

Flash forward 12 years to find Bisera among the first class of 14 students to graduate from NYU College of Dentistry’s 17-month Fast-Track Associate in Applied Science (AAS) degree program, launched in January 2015. The program, the first of its kind in New York State, is designed specifically to enable highly motivated students to gain access to the same innovative, high-quality education as that offered by the traditional two- to three-year course of study, but in a more concentrated period.

Bisera, who at age 14 enrolled in a specialty high school in Montenegro to become a dental lab technician, credits her mother with guiding her toward the dental profession. “My mother saw that I was always working with my hands, doing things such as baking and cooking,” says Bisera. “She believed that becoming a dental lab technician would be a good profession for me.”

However, Bisera realized early on that working in a lab was too isolating. “I really prefer working with people,” she says. After graduating from high school, Bisera participated in a dental assistant internship at a hospital, which paved the way for her first dental assistant job in Montenegro.

When Bisera began her first semester at NYU, she found the transition to student life somewhat daunting. “I had been working in dental offices for a long time, but going back to school was scary at first, especially since English is not my first language,” she says.

Bisera is particularly appreciative of the assistance provided by Ms. Megan Murphy, NYU College of Dentistry’s dental hygiene student retention
Bisera cannot say enough about the Dental Hygiene Program faculty. “They will go the extra mile for you. I have never seen so many amazing faculty members in one place. They don’t just teach each of us to be good dental hygienists, they also teach us to be good people.”

and academic advising coordinator, whom Bisera credits with helping her acclimate during that first semester. “She was always there for me whenever I needed support,” says Bisera. The Fast-Track program is challenging in many ways since students do not take any long breaks, and many of them are carrying 10-plus credits per semester,” says Ms. Murphy. In fall 2015, Bisera and the 13 other inaugural Fast-Track program students merged with the other AAS program students. “Bisera was able to come into her own as a dental hygiene student when the classes merged,” says Ms. Murphy. “She took advantage of every opportunity to learn and participate in the program, displayed leadership qualities, and connected well with the faculty.” Bisera cannot say enough about the Dental Hygiene Program faculty. “They will go the extra mile for you,” she says. “I have never seen so many amazing faculty members in one place. They don’t just teach each of us to be good dental hygienists, they also teach us to be good people.”

For Bisera, a highlight of her dental hygiene education was her participation in the NYU College of Dentistry/Henry Schein Cares Global Student Outreach Program to Mothuka, Rajasthan, India, in January 2016. In partnership with the Baba Bhagwan Dass Education Society, the NYU team conducted its first school-based oral health outreach program in the region. Bisera was proud to be selected by the dental hygiene faculty as the only dental hygiene student to accompany six NYU Dentistry administrators and faculty who provided oral health education and examinations to the children at the school and periodontal exams to adults.

In addition to the NYU dental team, three capstone project students from NYU’s College of Global Public Health were also on the trip, conducting a community-needs assessment. “The trip to India was amazing,” says Bisera. “We were working with an extremely poor population in a remote village. I had never worked outside of a high-tech office, and it was such a great experience to work in less than perfect conditions and see that we could still help these patients.” According to Ms. Rosemary Hays, clinical associate professor of dental hygiene and assistant director of dental hygiene admissions, when she told Bisera that she had been selected to go on the outreach, Bisera responded, “I am so honored that you are sending me.” “I said to Bisera, ‘You’re honored? We’re honored to have you go,”’ said Professor Hays, who added, “after the trip we could not believe all the accolades Bisera received from the administrators and faculty with whom she had worked. She did a great job and made us very proud.” Ms. Dianne L. Sefo, clinical instructor and preclinical coordinator of dental hygiene programs, has worked with Bisera in the preclinical course as her course director. “Some people think that a hygienist is just there to scrape plaque and calculus off teeth,” says Ms. Sefo. “But what we really try to promote is good oral health, and Bisera makes that possible by looking at the patient as a whole.” After graduation, Bisera hopes to work in a dental office where the prevailing philosophy revolves around comprehensive care. “I want to work in an environment where I do not feel rushed, where I can truly help my patients. After all, this is a caring profession, and that is what I like best about it.” “Bisera really took to heart what it means to be an NYU student,” says Ms. Murphy. She epitomizes the kind of hygienist whom we are proud to graduate. I think that she is going to bring knowledge, warmth, and overall professionalism to all her future endeavors. She cares so much and wants so much to effect change.”
The dental hygiene internship program — a requirement for all bachelor’s degree in dental hygiene students — was introduced in 1992 as a means of fostering interprofessionalism, innovation, reflection, and assessment capabilities. “Our Bachelor of Science program is housed within the world’s most comprehensive dental education, research, and patient care center, which enables us to offer distinct experiences not afforded to students attending community college-based dental hygiene programs,” explains Ms. Rosemary Hays, internship coordinator and clinical associate professor of dental hygiene. “These internships inform students of various aspects of health care beyond the scope of clinical practice.”

Originally consisting of four specialized focus areas — education, research, law and ethics, and corporate pharmaceutical sales — the internship curriculum now includes courses in allied health fields such as nursing, geriatrics, and public health. “Outreach opportunities also have been added,” says Ms. Eva Lupovici, adjunct clinical professor of dental hygiene and clinical associate professor of dental hygiene. “These internships inform students of various aspects of health care beyond the scope of clinical practice.”

Dushyanthan Nithiyananthasothy, ’14, a part-time dental hygienist in private practice and an adjunct clinical instructor of pediatric dentistry and of dental hygiene at the College, credits the internship program with shaping who he is today. He completed two internships during his third year. “The guidance and support I received from faculty throughout both courses led me to pursue careers in pediatric dentistry and in teaching,” says Mr. Nithiyananthasothy, who did his first internship in 2012, delivering preventive oral health services to children in Poughkeepsie, New York, as part of the NYU Dentistry/Henry Schein Cares Global Student Outreach Program. His second internship, which took place in 2013, focused on clinical teaching and included training with Associate Professor of Pediatric Dentistry Jill B. Fernandez. Under Professor Fernandez’s tutelage, Mr. Nithiyananthasothy provided dental hygiene instruction to first- and second-year DDS students and learned how to communicate effectively with pediatric patients in a clinical setting.

Each supervising mentor plays an essential role in his or her intern’s rotation evaluation. As a final grading component, interns must submit a brief essay detailing their experiences. In order to stimulate peer review and discussion, the essays are shared with other dental hygiene students via NYU Classes, an online forum for faculty/student and student/student exchanges.

Half of all dental hygiene internships are located within the College, where students interact with dental hygiene faculty, general dentists, specialists, and research faculty. Ms. Kaitlin Stier, AAS, ’10,
BS, '11, pursued her internship outside of NYU Dentistry, as the first dental hygiene student intern in the Manhattan Veterans Administration (VA) Hospital dental clinic. “Participating in the VA internship provided a great way to explore a different and exciting aspect of the field by working in a hospital setting. My experience exposed me to the broad array of roles that a dental hygienist can play in promoting public health,” says Ms. Stier, who credits the VA with strengthening her confidence and ability to interact with patients with special needs.

Ms. Stier also discovered a passion for teaching through the internship program. Today she ranks among the 50 percent of NYU College of Dentistry’s dental hygiene faculty who are NYU alumni. “Many of our alumni participated in the education track and are supervising students themselves today,” says Professor Hays.

Dr. Cheryl M. Westphal Theile, clinical professor of dental hygiene and assistant dean for allied health programs, notes that “internships provide an excellent opportunity for our students. They may take place at the College of Dentistry or at many off-campus sites, both nationally and globally. They have truly become a differentiating factor for our program.”

— Dr. Cheryl M. Westphal Theile
Effective Management: A Process-Oriented Approach

by
Morille Jean-Marie, AAS
Director, Sterilization & Materials Management
NYU College of Dentistry

The unit I head at NYU College of Dentistry, Central Sterilization and Materials Management, is indispensable to the provision of high-quality dental education and patient care. The unit is responsible for the cleaning, preparation, processing, sterilization, storage, and distribution of all instruments and equipment used in patient care. It is divided into four major areas: decontamination, assembly and packing, sterile processing and storage, and distribution. The unit supports all of the College’s clinical areas, a vast array of local and global patient care outreach projects, and our two Faculty Practices. The College records approximately 280,000 patient visits each year and we sterilize more than 2,800 instrument kits on a daily basis and more than 1.5 million items annually overall — all of which suggests the magnitude of our operation.

When I was appointed Director of Sterilization and Materials Management two and a half years ago, my biggest challenge was to come up with a strategy to motivate my team of 26 people, including an assistant director and a manager, to change some longtime habits and behaviors that were impeding productivity and to buy in instead to a process-oriented approach. I view process as a sustainable approach that leads to creative thinking and best practices. Such an approach involves analyzing a problem and developing an evidence-based process designed to achieve specific outcomes. I believe that understanding the members of your team as individuals and improving communication with and among them — and with your customers — are the first steps in creating a successful process.

Knowing and Understanding the Members of Your Team

In my first week as director, I became aware of the fact that the staff felt underappreciated. So I decided to start each day with a walk-through of our unit, during which I greeted everyone by name and asked them about their day. I realized that smiling and saying “Good morning” and “How is your day going?” elicited smiles in return. In getting that smile, I knew that I had made a human connection. It was a simple thing to do, but one
which enabled me to start building trust with the staff and letting them know that I appreciate the work they do. Once they knew that I was in their corner, the process of motivation became easier.

Two and a half years later, I still do a morning walk-through, greet every staff member by name, and ask how their day is going — always looking for and getting that smile in return.

**MOTIVATING YOUR TEAM**

Often you see longtime staff members coming to work and doing by rote what they have done for many years — what I call “common practice.” These are behaviors and habits that people find difficult to change. Unfortunately, common practice is not best practice. Common practice undermines growth and innovation. A unit will never improve if a common practice mindset continues to be tolerated.

To facilitate the move from common practice to best practice, I had to get everyone on the same page. I initiated daily meetings with my assistant director, Denise Shortt, and manager, Yolanda Rayside; weekly meetings with the staff; and monthly meetings with the entire team. My goal was, first, to get the management team on board and second, to have all our employees view our unit, and their places within it, and within the College, holistically, rather than in terms of the shift they worked or the individual items for which they were responsible. Through these team meetings we generate ideas and are able to come together to achieve consensus. As a result, everyone now realizes that by working together and sharing tasks, we can achieve more and enjoy our work more.

**UNDERSTANDING AND MEETING YOUR CUSTOMERS’ NEEDS**

Every clinical area at the College has distinctive needs. By conducting listening tours in which I met with department chairs, I gathered evidence about their specific needs — from types of instruments to the number of instruments needed to fit their schedules — and I also made sure that the department chairs understood how our unit functions and what we need from them in order to meet their requirements. Through this process, I was able to identify specific needs and to create a customized approach to meet them.

**CONTINUAL INNOVATION IMPROVES THE PROCESS**

An example of a major change that I made in Central Sterilization was to close at midnight, rather than to operate around the clock.

I felt strongly that if we were to merge some of the shifts to achieve a more streamlined approach, we would increase productivity and improve teamwork. It has now been two years since this change was implemented, and I am happy to report that productivity has increased; teamwork, attendance, and job satisfaction have improved; and we are meeting our customers’ needs with ease. I believe that that is because best practice — rather than ingrained behaviors — is now at the forefront of everything our unit does.

As our College continues to grow, we will continue to improve our process in order to support the highest levels of education and patient care.
“Is sugar-free gum really healthier?”
“What if my baby won’t go to sleep without a bottle?”

These are some of the questions that NYU College of Dentistry students fielded at a community outreach event on the sunny second floor of the Flatbush Library branch in Brooklyn in February 2016.

The event was part of the College’s extensive community outreach program — an initiative that takes students and faculty into low-income neighborhoods throughout New York City, providing critically needed dental screenings and services while exposing students to the full range of issues they will encounter in practice.

NYU College of Dentistry conducts outreach in two ways. All dental students must complete four monthlong community-based rotations, in which they spend one day a week providing direct patient care under faculty supervision in one of seven locations in four New York City boroughs. A second type of outreach takes place in dozens of locations throughout New York City and is an entirely voluntary effort shared by faculty members and students. In 2015, the number of volunteer community events reached 126.

Of the sites where student rotations take place, the busiest one is on wheels: The College of Dentistry mobile outreach van, Smiling Faces, Going Places, regularly visits more than a dozen public schools, providing comprehensive dental care to children and raising oral health awareness for their entire families. When the schools are closed during the summer, van teams visit daycare and Head Start programs.

“For people at some of these sites, we’re their dentists,” says Dr. Andrew Schenkel, clinical associate professor of cariology.
and comprehensive care and assistant chair for community-based dental education in the Department of Cario-
ology and Comprehensive Care.

For patients who might otherwise wait until a dental problem gets out of hand, receiving care on the van means that they avoid living with pain or going to the emergency room. Although the College accepts insurance from those patients who have it, no one is turned away due to inability to pay.

The volunteer screening events are held an average of three times a week, on weekdays and weekends, with about six to eight students typically taking part in each event — a “huge commitment of resources” on the part of NYU Dentistry, according to Ginette Lamarre, administrator for the outreach programs.

“It seems there’s no limit to the number of events for which students will volunteer, whether at health fairs, community events, senior centers, soup kitchens, homeless shelters, food banks, public schools, or any other venue where we can help people in need,” says Dr. Schenkel.

Dr. Fabiola Milord, clinical instructor of cariology and comprehensive care, is the outreach faculty member who works with Ms. Lamarre to recruit volunteers to the program and

Third-year DDS students provide free dental screenings and patient education to veterans at Volunteers of America Greater New York.

NYC Councilman Fernando Cabrera (second row, middle) visited the Smiling Faces, Going Places outreach van in the Bronx.
attends most of the weekday outreach events, providing supervision and making sure that students follow protocol — whether it comes to infection control or making sure that they are sensitive to cultural values.

“Screening,” says Dr. Milord, “is about raising awareness.” Students begin each volunteer community event by providing participants with an educational session on dental care and answering their questions. Although they do not directly treat patients at these sites, students refer many of them to the College. To encourage patients to come to the dental school, students provide each patient screened with a voucher to cover his or her comprehensive exam, treatment plan, and prophylaxis at no charge. About 20 percent of community-event participants come to the College.

“Some patients are afraid or assume they can’t afford treatment, but because they’ve made a personal connection with the dental student, they often feel comfortable coming to the dental school — and sometimes even see the same student at the College,” says Dr. Schenkel.

According to Drs. Schenkel and Milord, dental care sometimes comes at the end of a long “to-do” list for low-income New Yorkers. Some are undocumented or uninsured. Others may have Medicaid coverage and dentists in their neighborhoods who accept their insurance, but if they are finding it difficult to make ends meet, live in shelters, or are coping with domestic violence, it can be very difficult to make dental care a priority. Although most patients do not present with extreme situations, such as long-untreated infections, any delays in treatment can lead to more complex needs and may affect their general health.

Before the Flatbush Library event, library staff posted signs and emailed constituents weeks in advance to let them know the dental students were coming. They were not surprised when more than 30 participants arrived on the designated day, having turned a community room into a temporary dental center, with five tables set up for screening exams. At one of these tables, Peter Grink, a second-year dental student, suited in a pink paper disposable gown, spoke with one patient who had an infected tooth two years ago and hadn’t been to the dentist since. When told that the patient brushes her teeth once a day, he gently suggested adding a second brushing, “and you don’t need to brush too hard,” he said.

“For these patients, there’s a lack of knowing where to go, how to pay for it, and the importance of preventive care,” Peter says. One of the biggest misconceptions that students clear up is that New York City tap water is unhealthy. Some patients drink bottled water.
— using up precious dollars and also missing out on the fluoride that comes from the tap.

For Rachael Gilardetti, also a second-year student, the first patient of the day had several cracked teeth, gum recession, and was experiencing pain while drinking hot and cold liquids. The patient was the first of several who would be referred to the NYU College of Dentistry that day.

“These events are very important because not only do students have the opportunity to screen many patients with minimal supervision, but also because they work on their people skills, becoming comfortable talking with a very diverse group of patients,” says Dr. Winnie Montuori, who has taught general dentistry at the College since 2012 and supervised the students at the Flatbush site. “At first,” she adds, “students may be intimidated to see patients outside of a clinical setting: The lighting is different; the room is filled with people. But once they get used to it, they want to do it again.”

Dr. Montuori has volunteered at dozens of sites, including mosques, a Buddhist temple, and street fairs. “The program would not be possible without the enormous volunteerism of about 30 faculty members from multiple departments, some of whom, like Dr. Montuori, attend weekly or semiweekly events,” says Dr. Schenkel.

Some of the College’s outreach efforts have an interprofessional component. For example, in one new initiative, dental students join with occupational therapists who lead fall-prevention activities for older adults. At the opposite end of the age spectrum is the work that dental students and faculty do at Covenant House, a shelter and social services agency for homeless, abused, and abandoned children. Dental students treat children in short-term foster care under the preceptorship of the agency’s staff physician, nurse practitioner, and physician assistant. Students have the opportunity to work with many children who have never learned about oral health, so they are providing a service that will last a lifetime.

“It’s a win-win,” says Venetta Vanhorne, who directs a mother-and-child healthcare program through the local organization CAMBA — a nonprofit agency that provides services that connect people with opportunities to enhance their quality of life — and brought eight new mothers to the Flatbush Library screening. “We’re trying to show these moms how their oral health is connected to overall health,” she says, adding that some of the young women are afraid of going to the dentist. “These students are showing them that it’s an important part of health care for themselves and their children.”
NYU College of Dentistry maintains one of the largest collections of rare dental books in the world, including many prized first and second editions of historical texts. Yet, for many years, no one knew about this treasure trove, which Dr. Andrew I. Spielman, associate dean for academic affairs and professor of basic science and craniofacial biology, describes as having suffered from “benign neglect.” Now this collection, which had been stored in protective boxes at the Waldmann Dental Library, has been brought to light through a revitalization project led by Dr. Spielman.

It was the official closing of the Waldmann Dental Library on January 1, 2016 — the majority of whose holdings had long been digitized — that prompted Dr. Spielman to lead an initiative designed to shepherd the books to a new space for display. The collection, comprised of 931 volumes, now resides in a newly designed conference room on the 10th floor of the College of Dentistry, the same floor which houses the Dean’s Office and Administrative Suite. Second-year DDS program students Kimia Kohanbash and Sherri Aviczer, volunteered to assist Dr. Spielman on this special project, which includes digitizing the books for inclusion in a virtual library.

“This book collection is not only remarkable in and of itself, but there is a remarkable story regarding how the dental school obtained it, as well as how I came to know about its existence,” says Dr. Spielman, who first became aware of this archive in 2005. It all began when Dr. Spielman came across an auction on eBay listing a 1728 first edition of Pierre Fauchard’s Le Chirurgien Dentiste (The Surgeon Dentist). This prized publication described in great detail the dental treatment modalities for oral and dental conditions that existed in the early 18th century. It also established dentistry as a formal, independent profession and led to recognition
of Pierre Fauchard as the “Father of Modern Dentistry.”

“I immediately called our dean at the time, Dr. Michael C. Alfano, who gave me the go-ahead to bid on the book,” says Dr. Spielman. Dean Alfano advised Dr. Spielman to contact Mr. Van Afes, former director of the Waldmann Library, to fund the $10,000 purchase from his budget.

“So I called Van, and told him, ‘I have good news and bad news for you. We are going to have a copy of Fauchard’s first edition. However, you are going to pay for it,’” says Dr. Spielman. “Van replied, ‘We already have all three editions in our collection.’ I nearly fell off my chair. I could not believe that we owned not only the 1728 first edition, but also the 1746 second edition and the 1786 third edition.”

There are only nine libraries in the world that own one or more of these three editions of Le Chirurgien Dentiste, and that includes the British Museum, the Bibliothèque Nationale de France, and the Library of Congress. “The Bibliothèque Nationale has Fauchard’s actual handwritten manuscript with his notes, which is an amazing asset to have,” says Dr. Spielman, “but they don’t have second and third editions — nor does the British Library, nor the Library of Congress.”

The Fauchards and the other rare books in the College’s collection were a bequest from Dr. Bernhard W. Weinberger (1885–1960), a University of Pennsylvania School of Dental Medicine graduate, an orthodontist, amateur historian, and member of the NYU dental faculty between 1923 and 1931. NYU Dentistry currently has in its possession 931 titles from the 5,000 medical and dental books that comprised Dr. Weinberger’s collection. The original collection was slightly larger and over the years, a few rare books were given to the NYU School of Medicine.

“Winberger set out to assemble a very deliberate and important collection of dental books,” explains Dr. Spielman. The collection at the dental school contains 6 books from the 16th century, 9 books from the 17th century, 111 books from the 18th century, 765 books from the 19th century, and the rest are from the early 20th century.”

The oldest book in the collection comes from Germany, a 1546 edition of Artzney Buchlein, written and published by Johann Dryander. Considered the first book devoted entirely to dentistry, The Little Medicinal Book for All Kinds of Diseases and Infirmities of the Teeth was first published in 1530 and includes homeopathy and folk remedies. It was written for barber-surgeons who treated the mouth, a group which provided rudimentary dental care during the Middle Ages, and it covered such topics as oral hygiene, tooth extraction, drilling of teeth, and the placement of gold fillings.

To assist with this project, Ms. Kohanbash and Ms. Aviczer began by inventorying the books, which are displayed in specially designed, securely locked cabinets. “The books are generally in excellent condition and the pictures of the instruments are either hand drawn or done with engraved plating,” says Ms. Kohanbash. “It’s amazing to be able to see these early dentistry instruments in such great detail.”

Adds Ms. Aviczer, “What excites me about these books is that you can see all the different anomalies of different teeth and the development of malfunction, from the 1500s all the way through to today.”

The rare book collection is accessible by appointment only. Ms. Kohanbash and Ms. Aviczer, under Dr. Spielman’s supervision, will create a digital library, which will feature photos, stories, and various links related to the books and authors.

“We are going to have a lot more content within the digital platform,” says Ms. Aviczer, “such as the authors’ biographies and the books’ historical context, among other features.” The digital launch of the rare book collection not only will be a unique feature that distinguishes the NYU College of Dentistry from other dental schools, but it will also provide an important online service for practicing dentists, historians, and others interested in the subject matter.

“Some people might say, ‘Why bother with old books?’” says Dr. Spielman. “I would argue that old books represent our collective history and traditions. They provide the necessary context in which to appreciate the future. The great historian Jacob Burckhardt said of historical knowledge that it is not ‘to make us cleverer the next time, but wiser for all time.’”
Global Health Nexus (GHN): What motivated you to make your extremely generous gift to fund the creation of the world’s first official department of implant dentistry?

Dr. Ashman: By the fall of 1989, I had become convinced that implant dentistry was the future of the profession and that in order to teach and standardize the concept of dental implants in an effective manner and one that would bring much needed credibility to the field, a formal department of implant dentistry would have to be established at a leading academic institution. So I was delighted when I received a call from Dean Ed Kaufman at NYU who told me he knew that I was interested in establishing an implant department. I had never been at NYU in any capacity, but Dean Kaufman told me that he had had conversations with Dr. Bill Greenfield, an associate dean at NYU at the time, who knew about my commitment to establishing a department of implant dentistry.

Bill Greenfield and I already had a long history dating back to 1962. When I interned at Einstein, Bill was my teacher and mentor in oral surgery. Many years later, a number of companies were assessing me professionally relative to investing in the first synthetic bone substitute, HTR, which I had invented. Coincidentally, Bill was hired by these investors (called venture capitalists today) to spend more than six months, two to three days a week, in my office observing me placing implants and using HTR — now known as Bioplant® — in patients. Bill took meticulous notes and followed all patients postoperatively for months
to evaluate the results. I owe so much to Bill, especially for being open-minded in reporting on an area with which he was initially unfamiliar.

Bill subsequently played a pivotal role in the creation of the Ashman Department at NYU and persuaded specialists that this new modality was an important treatment innovation. Over the years, the department has thrived, and I have enjoyed a very gratifying relationship with the College. In fact, after I sold my practice in 1991, I spent many happy years teaching and conducting research four days a week in the Ashman Department.

GHN: In the early 2000s, former Dean Michael C. Alfano wanted to combine periodontology and implant dentistry in one department. What was your response?

Dr. Ashman: By the early 2000s, the Ashman Department of Implant Dentistry was defining the standards and techniques of implant treatment, including placement, bone regeneration, rehabilitation, and maintenance, and was leading the field in research into new ideas and materials. The department had achieved 10 years of success, and I thought this was a great and important idea since the periodontists would provide the recognized specialty umbrella that would add even more credibility to the next phase of implant development and utilization. In addition, besides placing implants themselves, the periodontists were maintaining the majority of the implants placed either by them or by other dentists. Accordingly, I enthusiastically gave the go-ahead.

GHN: Twenty-five years ago, did you ever expect that implant dentistry would become as mainstream as it is today?

Dr. Ashman: Twenty-five years ago, I not only expected implant dentistry to become mainstream, I anticipated that the public’s enthusiastic acceptance of dental implants would be a factor in gaining acceptance from the profession. Today, thanks to ongoing new technology enabling improved techniques, methods, and materials, implant dentistry has risen to the forefront of modern dental practice among generalists and specialists alike. Implant dentistry is not only recognized by organized dentistry in the US, but also as a specialty area at the global level. It was our department that set the standards which most other dental schools have adopted. Our research protocols have been followed by others, and we continue to set the standard for implant education not only at the continuing education level, but at the predoctoral level as well.

GHN: From your current vantage point, what do you see as the future of implant dentistry at NYU, nationally, and abroad?

Dr. Ashman: I see the future of implant dentistry as a continuing vehicle for the success both of dentists now entering the field and of patients who no longer have to resort to traditional denture replacement. As technology advances further, I anticipate that the cost of implant restorations will come down considerably, thereby allowing more people to have access to implant treatment.

I am very aware and appreciative of what our implant department has accomplished and of our current leadership in the field. Today there exists an array of different technical modalities, including T scans, three-dimensional technology, and computers that will make future implant procedures and restorations faster and considerably less expensive.

I would like to thank the late Dean Ed Kaufman and Associate Dean Bill Greenfield for their vision and support when we really needed it. And to all the dentists over the years who contributed their expertise and valuable time, my sincere thanks. We couldn’t have done it without you.
Rodrigo S. Lacruz, MSc, PhD: 
*International Man of Science*

Dr. Rodrigo S. Lacruz, assistant professor of basic science and craniofacial biology, lives for the journey of discovery. As a boy growing up on Tenerife in the archipelago of Spain’s Canary Islands, he longed to experience life on a broader scale.

“On a small island like Tenerife, people are never in a hurry to go anywhere. They visit the same places, see the same people, and follow the same routine again and again,” he says. “I always knew I wanted more.” This early wanderlust prompted Dr. Lacruz to embark on a 25-year odyssey that eventually led him to NYU College of Dentistry.

Upon completing his undergraduate studies at the University of La Laguna in Tenerife in 1988, Dr. Lacruz packed his bags and headed to Meacham Field, Texas — his first trip to the US — to earn a commercial pilot’s license. In Texas, he met people from many countries, including a Kenyan man whose goal was to become an agricultural pilot in Africa and who encouraged Dr. Lacruz also to travel to Africa. “As a youngster I had always wanted to go to Africa,” he says. “Although the Canary Islands and Africa are very close geographically, it seemed like another world to me, and I was hesitant to travel there because people said it was too dangerous. Perhaps it was fear of the unknown.”

Dr. Lacruz was able to set aside his reservations, and armed with his pilot’s license, he traveled to Kenya, where he would spend the next five years, initially flying tourists to Africa’s many game reserves. When the first Gulf War broke out and the Kenyan piloting business plummeted, he pursued a career as a safari guide in Kenya and Tanzania and worked with his friend Tony Fitzjohn, a leader in wildlife conservation in Tanzania. “We did a lot of camping out in tents in the middle of the bush,” says Dr. Lacruz, “often chasing hyenas away from our food trunks at night. I loved it! These experiences fueled my desire to learn more about animal behavior and wildlife conservation.”
It was in Kenya that Dr. Lacruz discovered a love of paleoanthropology. While preparing to lead a tour group through the National Museum in Nairobi, Dr. Lacruz came across an exhibit on the chronology of human evolution. He recalls the experience as transformative: "Being there, looking at a 3.2-million-year-old replica of the famous fossil known as Lucy and at the skull and skeleton of a young *Homo erectus*, and seeing how we changed from one shape to another to become humans, was the most enthralling thing I had ever experienced. I thought, 'this is a part of our evolution, a part of our history that I don't know much about, and I don't know how, but I would like to pursue a career in it.'"

Before he went down that path, however, Dr. Lacruz took a two-year detour to work as a traveling musician in London and returned to Africa in 1997 as a manager at the legendary tented safari camp, Jack’s Camp, located in the remote Makgadikgadi Pans in Botswana. "The nearest town, Maun, was a three-hour drive away, along sandy roads. This was in the days before cell phones, so from the camp we communicated only via HF radios powered by solar panels. Daytime temperatures in the summer reached 115°F. We did not have electricity or running water, so we used bucket showers, and to read at night, we had paraffin lanterns. It was bliss," says Dr. Lacruz.
Dr. Lee Berger, a professor of human evolution at the University of the Witwatersrand in Johannesburg, South Africa, came across Dr. Lacruz one day while searching for fossils in the area. He told Dr. Lacruz of his interest in expanding fossil surveys in Botswana. Dr. Lacruz, in turn, expressed his desire to study the history of human evolution, and before long, the two had struck a deal.

Together they developed the project requirements for a master’s degree in paleoanthropology, with topics of study ranging from cave geology to paleontology, including the fossils of saber-toothed cats. After completing his master’s degree, Dr. Lacruz went on to pursue a PhD in paleoanthropology, also at the University of the Witwatersrand.

“I spent many nights sleeping in my office because I couldn’t afford a house with my salary as a PhD candidate, but none of that mattered to me. It was all about the new path I was on, and I was determined to get my PhD,” says Dr. Lacruz, whose thesis focused on the origins of dental development using growth tracks found in the enamel of human fossils.

In late 2006, Dr. Lacruz received an invitation to conduct postdoctoral research at the Center for Craniofacial Molecular Biology at the University of Southern California (USC) School of Dentistry. That environment enabled him to study tooth enamel — its genetic makeup and how it relates to human health and disease. Dr. Lacruz’s research at USC over the next several years led him to discover genes that play a role in enamel maturation and mineralization.

These genes are at the core of his research at NYU Dentistry today. Dr. Lacruz came to the College in 2013 with a K99/R00 NIH/NIDCR career development grant, which enabled him to investigate the role of calcium release-activated calcium (CRAC) channels in enamel production. It is his hypothesis that understanding CRAC channels will benefit those who suffer from enamel-formation disorders due to mutations in the genes that control the activity of these channels.

With multiple job offers at the time, Dr. Lacruz considered NYU Dentistry’s resources, reputation, and, most importantly, the caliber of its researchers as determining factors in making his decision. “I realized that NYU was the place I needed to be,” says Dr. Lacruz. “It had a network of really good people, knowledgeable people of high standards that the other institutions couldn’t quite match. I saw this as the perfect location for collaboration.” It was also key that his PhD advisor, Dr. Timothy Bromage, professor of biomaterials, was at the College.

At NYU Dentistry, Dr. Lacruz was introduced to Dr. Stefan Feske, an internationally prominent researcher in the area of calcium signaling and a pioneer in discovering CRAC channels, by his department.
chair, Dr. Nicola C. Partridge, who also introduced him to Dr. William A. Coetzee. Both Drs. Feske and Coetzee, who are on the faculty at the NYU School of Medicine, played pivotal roles in helping Dr. Lacruz initiate his research, including allowing him to use their lab equipment and facilities until the College acquired the same instrumentation in 2015.

Today, Dr. Lacruz is setting new standards in calcium transport research. In October 2015, he and his team published the first-ever paper describing and demonstrating the mechanism of calcium transport essential in the formation of dental enamel. Despite calcium’s central role in the development of enamel, it was not previously understood how it was transported from the bloodstream to the zone where enamel crystals grow. The paper, “Dental Enamel Cells Express Functional SOCE Channels,” appeared in Scientific Reports, introducing innovative methodologies into the complex field of enamel biology. (See related story on p. 7.) Dr. Lacruz recently received funding from the NIDCR for a proposal to advance his research in the field of calcium control in dental enamel.

Paleoanthropology remains part of his research focus as well. This past year, he and Dr. Bromage and Dr. Johanna Warshaw, clinical assistant professor of basic science and craniofacial biology, set out to understand the morphological processes that distinguish Neanderthal facial growth patterns from those of modern humans. The team used an electron microscope and portable confocal microscope developed by Dr. Bromage to map, for the first time, the bone-cell growth processes (deposition and resorption) that occurred in the outer layer of the facial skeletons of young Neanderthals. Their findings were published in Nature Communications in an article entitled “Ontogeny of the Maxilla in Neanderthals and their Ancestors.” (See related story on p. 6.)

Dr. Lacruz is convinced that success as a scientist requires an ability to view things from multiple perspectives. As he explains, “When they’re in the lab, a lot of scientists tend to think only about conducting an experiment and calculating the results, but for me it’s also about the journey of discovery, learning new things and seeing things for the first time, reminding myself of what it means in terms of the big picture. The thrill of the journey gives me the energy and enthusiasm I need to follow through in everything I do, in science and beyond.”
First Malaysian Government-Sponsored Dentists Complete Programs for International Dentists

Three visiting faculty members from Universiti Teknologi Mara (UiTM), the largest dental school in Malaysia, have completed the International Dentists Programs. Dr. Hazlina Abdul Ghani, Dr. Nur hafizah B. Kamar affendi, and Dr. Mohd Kherman Suparman are the first Malaysian government-sponsored dentists to complete the International Programs at the College, an arrangement made possible by UiTM and the Malaysia Ministry of Education with the understanding that these dentists will share the knowledge and skills they have gained at NYU with UiTM colleagues when they return to Malaysia.

Dr. Abdul Ghani was drawn to the International Program in Implant Dentistry’s blend of didactic and clinical training. She credits Dr. Sang-Choon Cho, clinical assistant professor and associate academic director of periodontology and implant dentistry, with helping her reach her full academic potential. “The faculty and administrators here have trained me to use sound judgment in managing my time and resources and have shown me methods for inspiring confidence and trust in others,” she says.

Since moving to New York City in 2013, Dr. Kamar affendi has relished the opportunity to meet people from all walks of life and to make strong friendships at NYU. “NYU College of Dentistry employs dedicated faculty, staff, and administrators from around the globe who treat one another with respect. We’ve become like family,” she says.

Dr. Kherman Suparman credits Dr. Kambiz M. Ghalili, clinical professor of prosthodontics, with influencing his decision to attend NYU Dentistry. “Dr. Ghalili gave me a solid understanding of what the NYU College of Dentistry could offer in terms of achieving my goals,” says Dr. Suparman, who met Dr. Ghalili when he presented a guest lecture at UiTM in 2013. Three years later, Dr. Suparman says he is honored to have been a part of the International Program in Oral Surgery, which is conducted in collaboration with the Royal College of Surgeons in Ireland.
Oral Health Sustainability Model Introduced in the Philippines

With generous support and participation from Colgate-Palmolive, NYU Dentistry’s Dr. Mark Wolff has developed a strategy to enable dentists in the Philippines to lead and sustain caries prevention programs in their local communities.

The program builds on an earlier model developed by an NYU dental team led by Dr. Wolff, who serves as professor and chair of the Department of Cariology and Comprehensive Care and as associate dean for predoctoral clinical education and for development. Known as “Smile Grenada,” the model was developed for the tri-island nation of Grenada in 2011, with support from Colgate-Palmolive, the Henry Schein Cares Foundation, and GC America. It sought to reduce significantly an 83 percent prevalence of untreated dental caries in children ages 15 and under.

More than 20,000 children received toothbrushing instruction, toothbrushes and toothpaste, fluoride varnish, and sealants as part of the “Smile Grenada” program, which resulted in a 75 percent reduction in new decay in just two-and-a-half years.

Much was learned from “Smile Grenada,” especially about sustainability. “This became apparent,” says Dr. Wolff, “when we learned from dentists, schools, and government officials in Grenada that daily toothbrushing and routine fluoride varnish applications had stopped following our departure from the island.”

Determined to improve upon the “Smile Grenada” model, Dr. Wolff and representatives from Colgate-Palmolive organized the Caribbean Oral Health Initiative Conference — a network established to promote oral health improvement in the island nations of the Caribbean — to help recruit communities with a willingness not only to improve, but also to sustain oral health.

At the same time, officials in Pasay, Philippines, where studies showed a 90 percent prevalence of childhood dental caries, were eager to address this problem. A prevention program was launched in Pasay in October 2015 based on the lessons learned from the “Smile Grenada” initiative.

Similar to “Smile Grenada,” the program in Pasay aims to drastically decrease the rate of children’s tooth decay over the course of approximately two-and-a-half years. Working collaboratively with NYU and Colgate-Palmolive, the Philippines Departments of Education and Health, together with the heads of the nine participating public schools, have made a commitment to continue to promote oral health awareness following the College’s scheduled departure in 2018.

Since the program’s launch, Dr. Wolff and members of the Philippines branch of Colgate-Palmolive have trained local dentists to conduct their own oral health research and to apply fluoride varnish. In addition, nearly 500 public school teachers have been trained to provide toothbrushing instruction and nutrition education to their students. To date, more than 4,500 Filipino children have received preventive care.

“By measuring the rate of success of the independently managed program in the Philippines, we can show others just how effective — both medically and financially — promoting children’s oral health and caries prevention can be,” says Dr. Wolff.

“Empowering each community to conduct its own research and to implement oral health prevention programs in its schools proved the perfect solution to the challenges we encountered in Grenada. We’re changing the way the world manages tooth decay.”

Mark Wolff, DDS, PhD
Over the past 20 years, NYU College of Dentistry’s global student outreach program has provided oral healthcare services to thousands of children and adults living in medically underserved areas in Alaska, the Dominican Republic, Ecuador, India, Jamaica, Grenada, Honduras, Maine, Mexico, Nepal, upstate New York, Nicaragua, and Tanzania. A reassessment of the original outreach model, which focused specifically on providing emergency and restorative care, got underway in 2009 when the NYU Dentistry/Henry Schein Cares Global Student Outreach Program was established — thanks to a generous gift from Henry Schein Cares — with the goal of narrowing the disparity in the delivery of oral healthcare services and information to underserved communities both domestically and globally.

In the intervening years, the program, under the leadership of Dr. Stuart M. Hirsch, vice dean for international initiatives and for student affairs, has sought to encompass five major objectives, as follows:

- Creating sustainable healthcare models;
- Enriching NYU students’ education through public health experiences;
- Nurturing participants to become socially responsible healthcare providers;
- Achieving sustainable improvements in children’s oral health; and
- Effecting systems-level changes to reduce disparities in oral health.

Today’s global outreach model delivers essential care to populations in need and also provides participants with a unique service-learning experience, opportunities to conduct critically needed research, and an increased awareness of access-to-care issues, while fostering a passion for volunteerism and social responsibility.
Though adult oral health care remains an important part of the NYU Dentistry/Henry Schein Cares Global Student Outreach Program, pediatric dentistry has become its central focus. “We realized several years ago that creating a sustainable model would require redirecting our efforts toward early childhood prevention. By working with children, we could effectively measure clinical outcomes, give our students a well-rounded educational and clinical experience, and have a positive impact on oral health for future generations of adults,” says Rachel Hill, senior director of global outreach and international initiatives.

Like pediatric dentistry, public health dentistry has become a major focus of NYU Dentistry’s global outreach model. A mandatory public health component was added to students’ clinical rotations in 2015 as a means of exposing them to the everyday challenges faced by people in the communities they serve, and raising their awareness of the social determinants of oral health. While on outreach, students venture beyond the clinic each day to participate in activities such as tours of local health clinics and informal group discussions with community members.

“In Nepal, we visited the Tsering Elder Home in Boudha, which provides housing for approximately 50 Tibetan refugees. Listening to these elders’ stories — how they fled their homes and came to live there — made me feel fortunate and proud to offer services that can impact their world in such a special way,” says Billy Kwon, class of 2017.

Students typically refer to their outreach experience as “transformative,” saying that it challenged them to rethink their roles as healthcare providers. “When you meet patients who have traveled half a day, often waiting several hours to receive care at a remote clinic, you begin to realize the value of what we provide,” explains Mr. Kwon.

Dr. Alexis Cohen, ’12, assistant professor of pediatric dentistry, recalls her first visit to Kathmandu, Nepal. “The children at the Srongtsen School displayed some of the most severe cases of untreated tooth decay I’d ever seen, as if the gum and bone tissue had been cut away,” she says. In 2013, our research revealed an 83 percent prevalence of dental caries in children at the boarding school. Due to the number of emergency procedures required, not all children were able to receive comprehensive care that year. A daily toothbrushing regimen was introduced, however, and local teachers were trained to apply fluoride varnish at regular three-month intervals.

When the College’s global outreach team returned to Kathmandu in 2014, team members applied silver diamine fluoride (SDF) — a low-cost, non-invasive treatment for dental caries — to the children’s affected primary teeth to arrest decay and maintain spaces for their future permanent teeth.

Based on patient data measuring the effectiveness of treatment and prevention methods, over half of those Nepalese children diagnosed with dental caries in 2014 showed arrested caries by the subsequent fall. “In children treated with silver diamine fluoride in 2014, our research also demonstrated a significant decrease in the number of demineralized surfaces when the children returned to our clinic in 2015,” says Christopher Tung, research administrator for global outreach programs.

With help from public health providers, government officials, and school administrators in each outreach location, the NYU Dentistry/Henry Schein Cares Global Student Outreach Program aims to generate long-term effects in the areas that it serves. “It’s less about having a program on every continent and more about doing things in a way that will benefit both the population living in that area and our students’ educational experience,” says Ms. Hill. In addition to implementing daily toothbrushing in schools, the College educates students, parents, teachers, and caregivers on the importance of oral health and how it relates to systemic health. “Our goal is to empower these community members — to teach them to take their health into their own hands and do whatever they can to prevent dental caries in their kids,” adds Ms. Hill.
NYU Dentistry provided free oral health instruction and care to more than 550 children and adults at Casa de los Tres Mundos in Granada, Nicaragua, in September. Joining the College’s 33 pre- and postdoctoral dental students, faculty, staff, and alumni, were one dental student and one faculty member from the Columbia University College of Dental Medicine.

“Administrators from our outreach team are working closely with Columbia to help create its own global outreach program,” says Rachel Hill, senior director of global outreach and international initiatives. “This outreach to Granada, which was made possible by the generosity of the Henry Schein Cares Foundation, Septodont, and Colgate-Palmolive, provided our Columbia colleagues with an on-site example of a successful program in action.”
As part of the College’s third outreach to Kathmandu, Nepal, 25 elderly Tibetans were fitted for full upper and lower dentures by DDS students under the supervision of Dr. Igor Chikunov, clinical assistant professor of prosthodontics.

“We modified the denture fabrication procedure, typically a multi-visit process, to fit within one appointment, and have already received positive feedback from these patients regarding improvements in their quality of life,” says Dr. Chikunov.

The NYU Dentistry outreach team received support for this visit from the Henry Schein Cares Foundation, the Tibet Fund, the Seven Summits Foundation, and the Snow Lion Foundation.
“The main objective of our first outreach to Mothuka, Rajasthan, India,” says Danielle Becker, program administrator for global outreach programs, “was to gather evidence that will guide us in developing a prevention model that effectively addresses Mothuka’s particular oral health needs.”

To gain a better understanding of the strengths, resources, and opportunities available for improving oral health in the rural village, the global outreach team enlisted the help of three MPH degree candidates from NYU’s College of Global Public Health to conduct a mixed-methods community needs assessment, including focus groups with village residents and key informant interviews with local leaders. The outreach was made possible by generous support from the Henry Schein Cares Foundation, Colgate-Palmolive, Septodont, and Ultra-Dent, and was conducted in collaboration with local partners.
Thirty-four pre- and postdoctoral dental students, international programs students, faculty, staff, and alumni participated in NYU Dentistry’s first outreach to Chalchicomula de Sesma, Mexico. While there, the group met with local healers and community health workers to gain insight into the community’s health structure and indigenous practices. “The outreach program’s new public health component affords outreach participants the opportunity to learn more about communities where quality health care is limited,” says Dr. Anelly M. Gonzales, a student in the comprehensive dentistry program for international dentists and a participant in the weeklong outreach.

The outreach was made possible by generous support from the Henry Schein Cares Foundation, Colgate-Palmolive, Septodont, and Ultra-Dent, and was conducted in partnership with the Universidad Popular Autónoma del Estado de Puebla (UPAEP), a local private university, which first partnered with NYU Dentistry in 2012 on an outreach to nearby La Preciosita.

The global outreach team provided care to a record number 700-plus patients at the Lee Pellon Event Center in Machias, Maine. The College has conducted nine outreaches to Maine over the past six years, thanks to generous support from the Henry Schein Cares Foundation, the Northeast Delta Dental Foundation, Colgate-Palmolive, and Septodont.

“The entire global outreach team — from the students to the faculty and administrative staff — is just phenomenal,” said local partner Ms. Teresa Alley of Sunrise Opportunities. “We are beyond grateful to the College for the role it has played in providing access to care for struggling families throughout Washington County.”
CONGRATULATIONS TO ...

**MS. NATALIE NICOLA ADAMS,** formerly an administrator in the Department of Dental and Oral Surgery at Brookdale University Hospital and Medical Center, on being appointed a clinic manager.

**MR. GUY AKIV A,** formerly a client technology manager at Eze Castle Integration, on being appointed senior systems engineer for Technology and Informatics Services (TIS).

**MS. EMILY BAIO,** formerly an admissions representative and adjunct counselor at Suffolk County Community College, on being appointed an admissions officer.

**MS. NEFETARRI L. BAZILE,** formerly an office manager at Winthrop-University Hospital, on being appointed a clinic manager.

**MS. CATHERINE AGUIRRE,** formerly an administrative assistant at the New Jersey Spine Institute, on being appointed a patient service representative.

**DR. MICHAEL C. ALFANO,** professor emeritus of basic science and craniofacial biology, dean emeritus of NYU College of Dentistry, and executive vice president emeritus of NYU, on presenting the keynote address at the launch of a partnership between the Harvard School of Dental Medicine and Northeastern University School of Nursing: “The Nurse Practitioner-Dentist Model for Primary Care.”

**MS. TRACYANN TAMARA BEADLE,** formerly a financial aid assistant for Jersey College School of Nursing, on being appointed an administrative aide in the Department of Oral and Maxillofacial Pathology, Radiology and Medicine.

**MS. CARMEN MARIE BARCO,** formerly a patient service representative at the Ryan/Chelsea-Clinton Community Health Center Manhattan, on being appointed a patient service representative.

**MS. PERLA BERNSTEIN,** formerly a program coordinator in the public service office at Brooklyn Law School, on being appointed program coordinator for the Office of Student Affairs and Academic Support Services.

DR. TIMOTHY BROMAGE,
professor of biomaterials, on being elected a fellow of the American Association for the Advancement of Science (AAAS). Added kudos to Dr. Bromage on being featured in NYU Arts Digest’s spring 2016 cover story, “Lovely Bones: Revealing the Beauty of Patterns in Nature.”

MS. SHIRLEY BIRENZ,
clinical assistant professor of dental hygiene, on receiving the 2016 Esther M. Wilkins Distinguished Alumni Award from the Forsyth School of Dental Hygiene; on publishing an article entitled “Ebola Virus Disease and the Dental Professional” in Access Magazine; and on coauthoring an article entitled “The Impact of Medicaid Expansion on Oral Health Equity for Older Adults: A Systems Perspective” for the Journal of the California Dental Association. Ms. Birenz’s coauthors included DR. MARY E. NORTHRIDGE, associate professor of epidemiology and health promotion; DR. SARA S. METCALF, associate professor of epidemiology and health promotion; DR. HUA WANG, assistant professor of epidemiology and health promotion; and DR. ERIC W. SCHRIMSHAW, associate professor of epidemiology and health promotion.

MS. JESSICA CARRILLO,
formerly a patient service representative, on being promoted to telephone service representative.

DR. JOHN R. CALAMIA,
professor of cariology and comprehensive care, on receiving the 2016 Lifetime Achievement Award presented by the American Academy of Cosmetic Dentistry.

DR. COURTNEY CHINN,
clinical associate professor of pediatric dentistry and director of the Advanced Education Program in Pediatric Dentistry, on being selected to participate in the American Academy of Pediatric Dentistry-Healthy Smiles, Healthy Children Leadership Institute at Northwestern University’s Kellogg School of Management.

DR. LINDSAY COE,
a postdoctoral associate in the Department of Basic Science and Craniofacial Biology, on receiving a Young Investigator’s Travel Grant to present her poster, “Inhibition of FGF-23 Signaling Ameliorates Anemia in a Mouse Model of Chronic Kidney Disease,” at the Endocrine Fellows Foundation/The American Society for Bone and Mineral Research Ninth Fellows Forum on Metabolic Bone Diseases.

DR. LAWRENCE E. BRECHT,
adjunct clinical associate professor of prosthodontics, on being installed as immediate past president of the Greater New York Academy of Prosthodontics.

MS. MARIJA L. CAHOON,
adjunct clinical instructor of dental hygiene, on authoring an article entitled “Crohn’s Disease: Oral Indicators for the Dental Health Care Provider” for Access Magazine.

MS. VALERIE CONTE,
on being appointed a dental radiographer in the patient registration area.

DR. ERIC P. CHANG,
adjunct instructor of basic science and craniofacial biology, on coauthoring an article entitled “Synergistic Biomineralization Phenomena Created by a Combinatorial Nacre Protein Model System” for Biochemistry. Dr. Chang’s coauthors included DR. JOHN S. EVANS, professor of basic science and craniofacial biology.
MS. NANA DEGREE, formerly assistant director of the Department of Surgery at Harlem Hospital Center, on being appointed a clinic manager.

MS. KASTILIA COLON, formerly a clinic manager for the University Eye Center at SUNY College of Optometry, on being appointed a clinic manager.


DR. COSMO V. DE STENO, associate dean for professional practice and clinical professor of prosthodontics, on coauthoring an article entitled “NYU’s Dental Faculty Practice: Private Practice Opportunities for Faculty, Care Options for Patients, and a Mini Residency for DDS Students” for the *Journal of the American College of Dentists.*

MS. SAMANTHA MARIE DALUZ, formerly a financial analyst in the NYU Office of Financial Operations and Treasury, on being appointed a financial analyst for the Office of Finance and Business Operations at NYU Dentistry.

DR. ANANDA P. DASANAYAKE, professor of epidemiology and health promotion, on being selected as a member of the inaugural class of the American Association for Dental Research (AADR) Fellows Program, and on being elected director of the North American office of the Behavioral, Epidemiologic, and Health Services Research Group (BEHSR) of the International Association for Dental Research (IADR).

DR. ELISE EISENBERG, senior director of informatics and adjunct clinical professor of epidemiology and health promotion, on presenting a lecture entitled “New York University: Making Learning On-Demand with Automated Lecture Capture in EMS” at the EMS Live! 2015 Conference.

MS. IVANIE EXINOR, adjunct clinical instructor of dental hygiene, on authoring an article entitled “Management of the Patient with Sarcoidosis” for *Access Magazine.*

MS. CHANDRA DARJATMOKO, formerly a grant accountant at the University of Minnesota Clinical Neuroscience Administrative Center, on being appointed a grants administrator in the Department of Biomaterials.
DR. JONATHAN L. FERENCZ, adjunct clinical professor of prosthodontics, on being named one of “10 Professors Changing Dental Technology” by medicaltechnologyschools.com.

MS. JILL B. FERNANDEZ, clinical associate professor of pediatric dentistry, and DR. NANCY J. DOUGHERTY, adjunct clinical associate professor of pediatric dentistry, on presenting a poster entitled “Ensuring Quality Dental Care and Access for New York’s Most Vulnerable Patients” at the 2015 American Academy of Developmental Medicine and Dentistry Conference, and on winning first prize for their poster.

DR. STUART J. FROUM, adjunct clinical professor of periodontology and implant dentistry, on receiving the 2016 Master Clinician Award presented by the American Academy of Periodontology; on editing the second edition of Dental Implant Complications: Etiology, Prevention, and Treatment; on coauthoring an article entitled “Successful Surgical Protocols in the Treatment of Peri-implantitis: A Narrative Review of the Literature” for Implant Dentistry; and on coauthoring the following articles for The International Journal of Periodontics & Restorative Dentistry:
• “New Surgical Protocol to Create Interimplant Papilla: The Preliminary Results of a Case Series”;
• “The Use of a Xenogeneic Collagen Matrix at the Time of Implant Placement to Increase the Volume of Buccal Soft Tissue”;
• “A Regenerative Approach to the Successful Treatment of Peri-implantitis: A Consecutive Series of 170 Implants in 100 Patients with 2- to 10-Year Follow-up”; and
• “An Evaluation of Antibiotic Use in Periodontal and Implant Practices.”

DR. KENNETH FLEISHER, clinical associate professor of oral and maxillofacial surgery, on coauthoring “Does Fluorodeoxyglucose Positron Emission Tomography with Computed Tomography Facilitate Treatment of Medication-related Osteonecrosis of the Jaw?” for the Journal of Oral and Maxillofacial Surgery. Dr. Fleisher’s coauthors included MS. SABRINA PHAM-TRAN, Class of 2018; DR. KING CHONG CHAN, clinical assistant professor of oral and maxillofacial pathology, radiology and medicine; DR. NILOUFAR AMINTAVAKOLI, clinical assistant professor of oral and maxillofacial pathology, radiology and medicine; DR. MALVIN JANAL, senior research scientist and adjunct associate professor in the Department of Epidemiology and Health Promotion; and DR. ROBERT GLICKMAN, professor and chair of the Department of Oral and Maxillofacial Surgery.

MS. WINNIE FURNARI, clinical associate professor of dental hygiene, on being appointed a voting member of the American Dental Association Committee, US TAG for ISO/TC 106 Dentistry; on authoring an article entitled “Turtle Crossing Ahead” for RDH Magazine; on receiving the American Dental Hygienists’ Association and Crest Oral-B 2016 Educator of the Year Award; and on receiving the 2015 Frances D. Fluhr Outstanding Service Award presented by the New Jersey Dental Hygienists’ Association.

MS. GABRIEL NAOMI FLEMING, on being appointed a supply assistant.
MS. ASHLEY C. GRILL,
adjunct clinical assistant professor of dental hygiene, on receiving the University of Missouri-Kansas City (UMKC) Achievement Award in Dental Hygiene presented by the UMKC Alumni Association; on authoring an article entitled “Dental Hygienists & Practice-Based Research” for Access Magazine; on authoring a guest editorial entitled “Ensure Your Voice Is Heard” for Dimensions of Dental Hygiene; and on coauthoring two articles, “Defining Periodontitis for Person-Centered Care” and “Case Presentations Demonstrating Periodontal Treatment Variation: PEARL Network,” for Compendium of Continuing Education in Dentistry. Her coauthors included DR. RONALD G. CRAIG, professor of basic science and craniofacial biology; DR. FREDERICK A. CURRO, adjunct clinical professor of oral and maxillofacial pathology, radiology and medicine; and DR. VAN P. THOMPSON, former professor and chair of the Department of Biomaterials.

DR. CHANDURPAL P. GEHANI,
adjunct clinical associate professor of endodontics, on receiving the 2015 Distinguished Service Award presented by the Indian Dental Association (IDA) USA.

DR. ANA B. GIGLIO,
adjunct clinical associate professor of periodontology and implant dentistry, on being elected president of the Northeastern Society of Periodontists.

DR. GARY R. GOLDSTEIN,
professor of prosthodontics, on receiving The American Prosthodontic Society Gold Medallion Award and the American College of Prosthodontists Distinguished Service Award.

DR. MADELEINE S. HARDIE,
formerly a department and budget administrator for the NYU Skirball Department of Hebrew and Judaic Studies, on being appointed a financial analyst in the Bluestone Center for Clinical Research.

MS. VIVONIA P. GORDON,
formerly a lead medical records assistant, on being appointed a patient service representative.

MS. KRISTIN M. HOFER,

MS. CRYSTAL S. GUERRERO,
formerly an operations administrator and lab supervisor for NuLife Long Island Dental Laboratory, on being appointed a patient service representative.

MS. KRISTIE GORONZY,
formerly an administrative secretary and the neuromuscular fellowship coordinator for the Icahn School of Medicine at Mount Sinai Medical Center, on being appointed a program administrator for the Linhart Continuing Dental Education Program.
MS. WENDY HUANG, formerly a receptionist at the iFind Group, on being appointed senior human resources assistant.

MR. LIONELL GREGORY JACKSON, formerly associate director of support services at Mount Sinai Medical Center, on being appointed senior clinic manager in the Department of Pediatric Dentistry.

MR. CHRISTOPHER JOHNSON, formerly a PC support specialist at The Conference Board, Inc., on being appointed senior PC support technician for Technology and Informatics Services (TIS).

DR. EDMUND KHOO, clinical assistant professor of orthodontics, on being awarded the American Association of Orthodontists Foundation’s T. M. Graber Teaching Fellowship Award for Orthodontic Faculty Development; and on being appointed to the editorial advisory board for Orthotown Magazine.

DR. RALPH V. KATZ, professor of epidemiology and health promotion, on being featured in an article in the NYU Abu Dhabi (NYUAD) newsletter, The Gazelle, entitled “Towards a New Model for Teaching Bioethics.” Dr. Katz taught a course, “The Ethics and Politics of Public Health,” at NYUAD during the fall 2015 semester.

DR. HAN SUK KIM, Class of 2016, on receiving the ADEA/DENTSPLY International Student Poster Award for his poster entitled “Varying Feedback in a Test-Enhanced Competence-Based Course in Predoctoral Orthodontics.”

DR. KENNETH S. KURTZ, adjunct clinical professor of prosthodontics, on receiving the Clinician/Researcher Award presented by the American College of Prosthodontists (ACP). Added kudos to Dr. Kurtz on being appointed a maxillofacial prosthodontist representative on the ACP Council for the American Board of Prosthodontics.

MS. LIZA KHAN, formerly an academic program specialist and advisor with The City College of New York Office of Study Abroad & International Programs, on being appointed department administrator for the Dr. Ignatius N. and Sally Quartararo Department of Endodontics.

MS. JOANA KOSIAK, formerly a faculty practice assistant at NYU Langone Medical Center, on being appointed a patient service representative.
DR. HOWARD I.A. LIEB,
adjunct clinical associate professor of cariology and comprehensive care, international project coordinator, and special assistant to the dean, on receiving the Second District Dental Society of New York Distinguished Service Award. The award is the Society’s most prestigious form of recognition and is presented periodically to a Second District member whose contributions to the Society and dentistry are exemplary. Created in 1977, it has been awarded on only 12 previous occasions. Added kudos to Dr. Lieb on being elected chairman of the ADA Council on ADA Sessions for 2018. Dr. Lieb will chair the ADA annual session, which meets in Hawaii in 2018.

DR. RONALD LEHANE,
clinical assistant professor of periodontology and implant dentistry, on being elected a fellow of The American Academy of Oral Medicine.

DR. MARCI LEVINE,
clinical assistant professor of oral and maxillofacial surgery, on presenting a lecture entitled “Optimizing Anesthesia Patient Care-Pre/Peri/Post Op” at the 2016 Annual Session of the American Dental Society of Anesthesiology. Added kudos to Dr. Levine for being selected to serve on the National Board Dental Examination (NBDE) Part II Test Construction Committee for 2017 in the position of Oral and Maxillofacial Surgery and Pain Control Expert.

DR. MITCHELL J. LIPP,
clinical associate professor of orthodontics, and DR. NICOLAS M. FREDA, a 2016 graduate of the Advanced Education Program in Orthodontics, on coauthoring an article entitled “Test-enhanced Learning in Competence-based Predoctoral Orthodontics: A Four-year Study” for the Journal of Dental Education. Added kudos to Dr. Lipp on being elected to a three-year term as the College’s representative to the American Dental Education Association (ADEA) Council of Faculties.

DR. HAROLD LITVAK,
adjunct clinical professor of prosthodontics, on receiving the American College of Prosthodontists Education Foundation’s Founders Society Award.

DR. RONALD LEHANE,
clinical assistant professor of periodontology and implant dentistry, on being elected a fellow of The American Academy of Oral Medicine.

DR. ZHONGBO LIU,
an assistant research scientist in the Department of Basic Science and Craniofacial Biology, on coauthoring an article entitled “DMP-1-Mediated GHR Gene Recombination Compromises Skeletal Development and Impairs Skeletal Response to Intermittent PTH” for The Federation of American Societies for Experimental Biology (FASEB) Journal. Dr. Liu’s coauthors included DR. NICOLA C. PARTRIDGE, professor and chair of the Department of Basic Science and Craniofacial Biology; and DR. SHOSHANA YAKAR, associate professor of basic science and craniofacial biology.

DR. “ANNIE” QURATUL MALIK,
Class of 2016, on being elected Postgraduate Resident Delegate for the American Dental Education Association (ADEA) Council of Students, Residents and Fellows.
DR. MAUREEN McANDREW, clinical professor of cariology and comprehensive care, on facilitating a training program entitled “Best Practices for Mentoring Dental Students” at the ADEA Academic Dental Careers Fellowship Program, and on coauthoring the following articles for the Journal of Dental Education:

- “The Role of Organizational Context in the Creation and Sustainability of Dental Faculty Development Initiatives”;
- “Social Media in the Dental School Environment, Part A: Benefits, Challenges, and Recommendations for Use”;
- “Social Media in the Dental School Environment, Part B: Curricular Considerations”;
- “Peer Education: Reviews of the Literature (PERLs)”;
- “Dental Student Study Strategies: Are Self-testing and Scheduling Related to Academic Performance?”

DR. JOHN T. McDEVITT, professor and chair of the Department of Biomaterials, on receiving the Wallace H. Coulter Lectureship Award presented by the American Association for Clinical Chemistry (AACC), a global scientific and medical professional organization dedicated to better health through laboratory medicine; and on being a featured speaker at the Second Annual North American Saliva Symposium.

DR. FABIOLA MILORD, clinical instructor of cariology and comprehensive care, on being appointed a member of the New York State Dental Association’s Special Committee on Dental Medicaid representing Nassau County.

DR. MARJAN MOGHADAM, clinical assistant professor of prosthodontics, on coauthoring an article entitled “Electronic Laboratory Quality Assurance Program: A Method of Enhancing the Prosthodontic Curriculum and Addressing Accreditation Standards” for the Journal of Prosthetic Dentistry. Dr. Moghadam’s coauthor was DR. LEILA JAHANGIRI, clinical professor and chair of the Department of Prosthodontics.

DR. RICHARD NIEDERMAN, professor and chair of the Department of Epidemiology and Health Promotion, on authoring an article entitled “Bringing Care to People Rather Than People to Care” for the American Journal of Public Health; and on co-presenting an evidence-based dentistry training session for nearly 100 faculty members at UCSF School of Dentistry.

DR. WILLIAM J. MALONEY and DR. JOEL SILVER, clinical associate professors of cariology and comprehensive care, on coauthoring an article entitled “Lingual Nerve Injury in the Dental Office” for Dentista y Paciente. Added kudos to Dr. Maloney on authoring articles entitled “Dental Revelations From the Teeth of King Richard III” and “Teeth Sharpening in the Belgian Congo and the Tragic History of Ota Benga” for NYSDA News; and on coauthoring an article entitled “A Bear-Sized Sweet Tooth” for NYSDA News with DR. LAURIE R. FLEISHER, clinical assistant professor of cariology and comprehensive care.

MR. COREY NESKEY, a cybersecurity expert, on joining Technology and Informatics Services (TIS) as a security analyst.
DR. BRENDAN G. O’CONNOR, clinical assistant professor of oral and maxillofacial surgery, on being featured in a BBC documentary about four former altar boys growing up in Northern Ireland.

DR. EVGENY PAVLOV, assistant professor of basic science and craniofacial biology, on presenting an abstract entitled “Inorganic Polyphosphate (polyP) in Membrane Ion Transport” at the 2015 Inorganic Polyphosphate Physiology Meeting sponsored by the Biochemical Society; and on publishing an article, coauthored by DR. MARIA DE LA ENCARNACION SOLESIO TORREGROSA, a postdoctoral associate in the Department of Basic Science and Craniofacial Biology, entitled “Inorganic Polyphosphate (polyP) as an Activator and Structural Component of the Mitochondrial Permeability Transition Pore” in Biochemical Society Transactions. Added kudos to Dr. Pavlov on being invited to serve on the editorial board of the Journal of Bioenergetics and Biomembranes (JOBB).

DR. FRANCIS V. PANNO, professor emeritus of prosthodontics, on receiving the Distinguished Service Award presented by the American College of Prosthodontists - New York Section.

DR. NICOLA C. PARRIDGE, professor and chair of the Department of Basic Science and Craniofacial Biology, on presenting a keynote address entitled “Recent Aspects of PTH Biology” at the 2015 Basic Research on Bone and Cartilage Biology Annual Meeting in Nantes, France. Added kudos to Dr. Partridge on being invited to become a member of the Annual Meeting Steering Committee of the Endocrine Society.

DR. IVY PEITZ, clinical associate professor of cariology and comprehensive care and group practice director, on creating a podcast entitled “Why Academia Is a Good Option,” which was featured at the American Dental Education Association’s (ADEA’s) CareerCon; and on being invited to present her case study, “Multidisciplinary Management of a Fractured Root,” as part of the “Dental Pearls from the AGD Masters and Fellows” lecture course at the 2016 Academy of General Dentistry (AGD) meeting.

MS. KATHY PIEDRAHITA-IRIZARRY, on being appointed a patient service representative.

MS. NIVIDITA PURI, adjunct clinical instructor of dental hygiene, on authoring an article entitled “Holistic Approach of Oil Pulling in the Dental World: A Literature Review” for The Dental Assistant.

MS. APRIL REED, formerly an administrative assistant/book-keeper at Eli Winer and Company, on being appointed an administrative aide in the Office of Finance and Business Operations.

MS. KERRYANN RICHARDS, on being appointed a dental assistant at the NYU Dental Faculty Practice South.
MR. STEVEN PIGLIACELLI,
adjunct instructor of prosthodontics, on receiving the Dental Technician Leadership Award presented by the American College of Prosthodontists.

DR. STACI RIPKEY,
assistant dean for student affairs and academic support services, on receiving an EdD degree in higher and postsecondary education from Columbia University.

DR. MIRIAM R. ROBBINS,
adjunct associate professor of oral and maxillofacial pathology, radiology and medicine, on being elected president of the Special Care Dental Association (SCDA).

DR. MARCELA ROMERO REYES,
assistant professor of oral and maxillofacial pathology, radiology and medicine, director of the Orofacial Pain Program, and director of the Advanced Program for International Dentists in Oral Medicine and Orofacial Pain, on presenting a series of lectures for the MS Program in Orofacial Pain at the University of the Basque Country EHU, and a lecture on “Orofacial Pain and Cancer” at the Sixth International Symposium, “Advancements in Oral Cancer,” in San Sebastian, Spain. Added kudos to Dr. Romero Reyes on being featured in Dentists of Today, which is distributed throughout Spain and Mexico.

DR. PAUL A. ROSENBERG,
professor of endodontics, on being selected as the recipient of the 2017 I.B. Bender Lifetime Educator Award to be presented by the American Association of Endodontists.

DR. STEFANIE L. RUSSELL,
clinical associate professor of epidemiology and health promotion, and DR. ARIEL PORT, assistant research scientist in the Department of Epidemiology and Health Promotion, on coauthoring an article entitled “Toward Implementing Primary Care at Chairside: Developing a Clinical Decision Support System for Dental Hygienists” for the Journal of Evidence-Based Dental Practice. Additional coauthors included MS. DANNI M. GOMES, adjunct clinical instructor of dental hygiene; MS. SHIRLEY BIRENZ, clinical assistant professor of dental hygiene; DR. DONNA SHELLEY, adjunct clinical associate professor of cariology and comprehensive care; DR. MARY E. NORTHRIDGE, associate professor of epidemiology and health promotion; and DR. ELISE EISENBERG, senior director of informatics and adjunct clinical professor of epidemiology and health promotion.

MS. MARIA RUSINAK,
on being appointed a patient service representative.

MS. MARIA RUSINAK,
on being appointed a patient service representative.
DR. RAID SADDA, clinical associate professor of oral and maxillofacial surgery, on coauthoring “Implant Placement in a Patient Presenting Avascular Bone Necrosis: A Histological Report” for the Journal of Oral Biology. Dr. Sadda’s coauthors included DR. KING CHONG CHAN, clinical assistant professor in the Department of Oral and Maxillofacial Pathology, Radiology and Medicine; DR. TAKANORI SUZUKI, clinical assistant professor in the Ashman Department of Periodontology and Implant Dentistry; and DR. SANG-CHOON CHO, clinical assistant professor in the Ashman Department of Periodontology and Implant Dentistry.

MS. PATRICIA SALAS, formerly a patient service representative, on being promoted to telephone service representative.

MR. OSCAR SALVATIERRA, formerly a web producer at The New School, on being appointed web developer for the Office of Communications and Public Affairs.

DR. PRAKAIMUK SARAITHONG, formerly a graduate research assistant in the Department of Basic Science and Craniofacial Biology, on being appointed a postdoctoral associate in the Bluestone Center for Clinical Research.

DR. ALEXANDER SCHLOSS, adjunct clinical associate professor of periodontology and implant dentistry, on coauthoring an article entitled “Genomics, Ethical Issues, and the Practice of Dentistry” for Ethics in Biology, Engineering and Medicine: An International Journal, with DR. ANTHONY T. VERNILLO, professor emeritus of oral and maxillofacial pathology, radiology and medicine.

DR. ANDREW B. SCHENKEL, clinical associate professor of cariology and comprehensive care and assistant chair for community-based dental education in the Department of Cariology and Comprehensive Care, on coauthoring an article entitled ‘A Pilot Study of Dentists’ Assessment of Caries Detection and Staging Systems Applied to Early Caries: PEARL Network Findings” for General Dentistry. Dr. Schenkel’s coauthors included DR. BAPANAIH PENUMODA, associate professor of cariology and comprehensive care and group practice director; DR. MARK WOLFF, professor and chair of the Department of Cariology and Comprehensive Care and associate dean for predoctoral clinical education and for development; MS. ASHLEY C. GRILL, adjunct clinical assistant professor of dental hygiene; and DR. FREDERICK A. CURRO, adjunct clinical professor of oral and maxillofacial pathology, radiology and medicine.

DR. BRIAN SCHMIDT, professor of oral and maxillofacial surgery and director of the NYU Bluestone Center for Clinical Research and the NYU Oral Cancer Center, on being appointed to the Somatosensory and Chemosensory Systems Study Section at the Center for Scientific Review, part of the National Institutes of Health (NIH).

MS. SUSAN SCHLUSSLER, formerly director of information technology and supervising programmer analyst at Stony Brook University, on being appointed a crystal reports writer for Technology and Informatics Services (TIS) and an adjunct instructor in cariology and comprehensive care.
MS. DIANNE L. SEFO, clinical instructor in dental hygiene, on authoring “LM Dental’s Approach to Implant Care,” and on coauthoring “Teeth Look Like…: Visual Impairments Represent a Challenge to the Oral Health Care Educator” with MS. GIORDANA F. TAGLIARENI, a graduate of both the AAS degree program, ’14, and the BS degree program in dental hygiene, ’15, both for RDH Magazine; and on authoring “Six Dental Health Facts You Need to Know” for colgate.com.

MS. HITAKSHI SHARMA, formerly a project administrator for Broadridge Financial Solutions, Inc., on being appointed a program administrator for the Department of Prosthodontics.

MS. JENNIFER SHAW, formerly an adjunct instructor in the Department of Music and Performing Arts Professions at NYU Steinhardt, on being appointed an admissions officer.

DR. MARIA DE LA ENCARNACION SOLESIO TORREGROSA, a postdoctoral associate in the Department of Basic Science and Craniofacial Biology, on presenting an abstract entitled “Contribution of Inorganic Polyphosphate Towards Regulation of Mitochondrial Free Calcium” at the Biophysical Society’s 60th Annual Meeting.

DR. ANDREW I. SPIELMAN, professor of basic science and craniofacial biology and associate dean for academic affairs, on being quoted in the spring 2016 “Presidential” issue of NYU Alumni Magazine on the myth that George Washington had wooden teeth. Added kudos to Dr. Spielman on being quoted in an ADA News article, “Health Care Reform, Market Forces Drive Increase in Interprofessional Education,” and on coauthoring an article entitled “Three Modeling Applications to Promote Automatic Item Generation for Examinations in Dentistry” for the Journal of Dental Education. Dr. Spielman’s coauthors included DR. YON H. LAI, adjunct clinical professor of orthodontics.

MS. EVONN STAPLETON, formerly director of the South Bronx Overall Economic Development Corporation’s entrepreneurial development program, on being appointed an administrative aide in the Office of Finance and Administration.

MR. JASON SINGLETON, on being appointed a supply assistant.

MS. AYANNA STOVER, formerly an office manager for L.P. Valbrun Medical and Psychiatric Services, on being appointed a patient service representative.

DR. ERIC STUDLEY, clinical associate professor of cariology and comprehensive care and group practice director, on creating a podcast entitled “Marketing Yourself and Your Business,” which was featured at the American Dental Education Association’s (ADEA’s) CareerCon.

DR. CRISTINA TEIXEIRA, associate professor and chair of the Department of Orthodontics, on coauthoring an article entitled “High-Frequency Acceleration: Therapeutic Tool to Preserve Bone Following Tooth Extractions” for the Journal of Dental Research. Dr. Teixeira’s coauthors included DR. JOSE ALEANDRO, a third-year postgraduate student in orthodontics; DR. HIBA ALABDULLAH, a second-year postgraduate student in orthodontics; DR. CHINAPA SANGSUWON, a junior research scientist in the Department of Orthodontics; and DR. SARAH ALANSARI, a 2016 graduate of the Advanced Education Program in Orthodontics.

DR. HUZEFA TALIB, clinical assistant professor of oral and maxillofacial surgery, and DR. ROGER N. WARREN, adjunct clinical associate professor of periodontology and implant dentistry, on participating in a lecture series presented by the College’s Office for International Programs at the annual Congresso Nazionale dei Collegio dei Docenti di Odontoiatria in Rome, Italy.

DR. ROGER N. WARREN, adjunct clinical associate professor of periodontology and implant dentistry, on coauthoring an article entitled “Treatment of an Unusual Non-Tooth Related Enamel Pearl (EP) and 3 Teeth-Related EPs with Localized Periodontal Disease Without Teeth Extractions: A Case Report” for Compendium of Continuing Education in Dentistry. Dr. Warren’s coauthors included DR. TIMOTHY BROMAGE, professor of biomaterials, and DR. ISMAEL KHOULY, clinical assistant professor of oral and maxillofacial surgery.

DR. ANALIA VEITZ-KEENAN, clinical associate professor of oral and maxillofacial pathology, radiology and medicine, and director of evidence-based dentistry in the Department of Epidemiology and Health Promotion, on receiving the NYU 2016 Distinguished Teaching Award (see related story on p. 72), and on being appointed to the editorial board of Cochrane Reviews as editorial advisor for Evidence-based Teaching.

MS. MOLLY WASHBURN, formerly the coordinator for predoctoral group practices at the Henry M. Goldman School of Dental Medicine at Boston University, on being appointed department administrator for the Ashman Department of Periodontology and Implant Dentistry.

MS. LENA TSUI, formerly a patient service representative, on being promoted to telephone service representative.
**Dr. Mark Wolff**, professor and chair of the Department of Cariology and Comprehensive Care and associate dean for predoctoral clinical education and for development, on coauthoring the third edition of *Preservation and Restoration of Tooth Structure*, published by Wiley Blackwell; on being featured in AGD Impact’s October 2015 cover story, “Helping Hands: The Dentist’s Role in Identifying and Reporting Abuse”; and on presenting the keynote address at the Eighth Asian Conference of Oral Health Promotion for School Children.

**Ms. Andrienne L. Washington**, formerly a supply assistant, on being promoted to preclinical senior supply assistant.

**Dr. Amber L. Watters**, adjunct clinical instructor of oral and maxillofacial pathology, radiology and medicine, on receiving the Olav Alvares Award for Outstanding Articles Published in the *Journal of Dental Education*, presented by the American Dental Education Association (ADEA); and on coauthoring an article entitled “Incorporating Experiential Learning Techniques to Improve Self-Efficacy in Clinical Special Care Dentistry Education” for the *Journal of Dental Education*. Dr. Watters’s coauthors included **Dr. Malvin N. Janal**, a senior research scientist and adjunct associate professor of epidemiology and health promotion; **Dr. Miriam R. Robbins**, adjunct associate professor of oral and maxillofacial pathology, radiology and medicine; **Ms. Jeanine Stabulas**, clinical assistant professor of oral and maxillofacial pathology, radiology and medicine; and **Dr. James D. Toppin**, adjunct assistant professor of oral and maxillofacial pathology, radiology and medicine.

**Ms. Stefania Willis**, clinical assistant professor of dental hygiene, on authoring “The Role of Diet in the Prevention and Treatment of Auto-immune Diseases” for Access Magazine, and on coauthoring “Stop the Cycle of Missed Appointments” for *Dimensions of Dental Hygiene*. Ms. Willis’s coauthors included **Ms. Priyanka Sharma** and **Mr. Richard James Tanega**, both 2015 graduates of the AAS Program in Dental Hygiene.

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Dr. Barnett Bucklan, clinical associate professor of cariology and comprehensive care, has played a major role in educating generations of NYU-trained dentists. For the past 28 years, Dr. Bucklan, a 1965 graduate of the College of Dentistry, has been a member of the NYU College of Dentistry faculty. "When I joined NYU as a part-time faculty member in 1988, I considered teaching to be a welcome respite from the challenges of owning and operating a private practice. I never imagined that it would someday become my principal professional activity. My interactions with students quickly became the best part of my week, and I soon found myself spending more time at NYU and less time in my Stony Brook office."

In 2000, Dr. Bucklan retired from private practice to become assistant director of operative simulation in the Department of Operative Dentistry, now the Department of Cariology and Comprehensive Care. Within two years, he was appointed director of the first-year operative dentistry simulation course, and in 2004, he accepted an additional position as director of dental anatomy.

“From the moment I began working with ‘Buck’ in the fall of 1994, I just knew he would one day become

“He possesses all the qualities of a leader — he’s practical, straightforward, caring, and approachable — and the students love him.”

— Dr. Teresita Salgado
course director,” says Dr. Teresita Salgado, clinical assistant professor of cariology and comprehensive care. “He possesses all the qualities of a leader — he’s practical, straightforward, caring, and approachable — and the students love him.” Shifteh Dehghani, Class of 2020, ranks Dr. Bucklan among her favorite professors, noting that he embodies “that perfect balance between challenging his students and offering expert guidance when needed. He never stops believing in his students,” she says. Evan Kollander, Class of 2017, met Dr. Bucklan in 2013 as a first-year student in the operative dentistry lab. He credits Dr. Bucklan with teaching him not only the fundamentals of general dentistry, but also what it really means to be a dentist — both meeting patients’ oral health needs and improving their lives. “Dr. Bucklan’s class was the basis for everything I do today. I attribute all of my success to him,” says Mr. Kollander, currently a teaching assistant in Dr. Bucklan’s lab.

“To know that I’ve played such an integral part in the transformation of these students’ lives as they’ve progressed through dental school is the most rewarding part of teaching for me,” says Dr. Bucklan. “To those students who tell me they’ll miss me, I say, ‘Don’t miss me; remember me.’”

“When I joined NYU as a part-time faculty member in 1988, I considered teaching to be a welcome respite from the challenges of owning and operating a private practice. I never imagined that it would someday become my principal professional activity. My interactions with students quickly became the best part of my week.”

— Dr. Barnett Bucklan
Dr. Robert S. Ledley, ’48: 1926 – 2012

Dentist, Physicist, Inventor.
Dr. Ledley’s technology revolutionized diagnostic medicine.
The prototype of his ACTA scanner is now on display at the Smithsonian Institution’s National Museum of American History.

After his discharge from the Army, Dr. Ledley went to work in Washington, DC, at the National Bureau of Standards’ Dental Materials Section as a programmer on the Standards Eastern Automatic Computer, or SEAC. Before long, Dr. Ledley was focusing on the role that computers might play in solving biomedical problems.

In 1956, Dr. Ledley was hired as an assistant professor of electrical engineering at George Washington University School of Engineering and Applied Science. That year, he began to collaborate with Dr. Lee B. Lusted, a radiologist and electrical engineer, on developing ways to teach physicians and biomedical researchers to use electronic digital computers in their work.

In 1960, Dr. Ledley founded the National Biomedical Research Foundation, a nonprofit organization dedicated to promoting the use of computing methods among biomedical scientists.

Dr. Ledley began his work on CT scanning in 1973. Building on earlier work by the British engineer and Nobel Prize winner, Sir Godfrey Hounsfield, whose scanner could be used only on patients’ heads, he assembled a group at Georgetown to build the Automatic Computerized Transverse Axial, or ACTA, scanner, which could scan the entire body.

Dr. Ledley’s technology revolutionized diagnostic medicine. The prototype of his ACTA scanner is now on display at the Smithsonian Institution’s National Museum of American History. In addition to the ACTA scanner, Dr. Ledley patented the image processor, wrote the first computational notebook for engineers on digital computer engineering, and developed computational methods for use in digital circuit design.

In 1990, he was inducted into the National Inventors Hall of Fame, and in 1997, he was honored by President Bill Clinton with the National Medal of Technology, the nation’s highest honor for technological achievement.

An outstanding graduate of the College of Dentistry, Dr. Ledley received the NYU Distinguished Alumnus Award in 1999 “in recognition of extraordinary achievement and/or service to his/her profession, vocation, or social or cultural endeavors.”
ALUMNI IN THE SPOTLIGHT

’70s
DR. PAUL CASELL, Class of 1976, on authoring an article in DentalTown Magazine entitled “CE: Mill In or Send Out?”

’80s
DR. GERALD P. CURATOLA, Class of 1983, and adjunct clinical associate professor of cariology and comprehensive care, on being selected to appear in the “America’s Best Dentists” registry for 2015. Selections were made by the National Consumer Advisory Board, an organization that identifies top professionals in their fields.

DR. STEVEN R. SCHWARTZ, Class of 1983, on being unanimously chosen by the oral and maxillofacial surgery residents at Woodhull Medical and Mental Health Center to receive the 2016 Oral and Maxillofacial Surgery Faculty of the Year Award.

’90s
DR. SUNDAY AKINTOYE, Class of 1995; MS in oral biology, Class of 1998; and associate professor of oral medicine at the University of Pennsylvania School of Dental Medicine, on being selected as a Fulbright Scholar to Nigeria for the 2015–2016 academic year to conduct research and teach at the University of Lagos, where he began his dental training.

DR. VINCENT J. PERCIACCANTE, Class of 1995, on receiving the Committee Person of the Year Award at the 2015 AAOMS Annual Scientific Sessions and Exhibition of the American Association of Oral and Maxillofacial Surgeons in Washington, DC.

’00s
DR. WAYNE KYE, Class of 2001, and clinical associate professor of periodontology and implant dentistry, on being selected by the American Board of Periodontology to serve as an examiner for the May 2016 Oral Board Examination.

IN REMEMBRANCE

Dr. H. Lee Adamo, Class of 1975; adjunct clinical associate professor of endodontics

Dr. Herman H. Buzin, Class of 1950

Dr. Leonard De Duke, Class of 1960

Dr. Sergio Garcia-Rivera, Class of 1986; clinical associate professor of cariology and comprehensive care

Dr. Stephen B. Gold, Class of 1974

Dr. Michael Gulotta, Class of 1985

Dr. Eugene A. Isolar, Jr., Class of 1965

Dr. Martin Kane, Class of 1964

Dr. Victor H. Kasner, Class of 1958

Dr. Robert S. Ledley, Class of 1948

Dr. Herbert S. Leopold, Class of 1950

Dr. Joseph Miglino, former professor of prosthodontics

Dr. George C. Moore, Class of 1958

Dr. Herbert Napell, Class of 1952

Dr. Frank F. Resillez-Urioste, former associate professor of cariology and comprehensive care

Dr. Murray Rose, Class of 1943; long-time faculty member, Department of Cariology and Comprehensive Care

Dr. Stanley B. Saunders, Class of 1950

Dr. Morton Schnur, Class of 1961

Dr. Gerald C. Selke, Class of 1962

Dr. Eugene Sherman, Class of 1955

Dr. Peter C. Teng, Class of 1969
WE THANK OUR BENEFACTORS

Alumni, faculty, friends, corporations, foundations, and organizations — for their generous support of the college. We are proud to recognize your gifts of cash, pledge payments, planned gifts, gifts-in-kind, and pledges over $25,000, which were made between September 1, 2014 and August 31, 2015.

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<tbody>
<tr>
<td>$10,000–$24,999</td>
<td>Martin Kane Malin M. Lai Yon H. Lai Elliott M. Moskowitz Lawrence B. Schwab Sigma Epsilon Delta Dental Fraternity Joseph and Janet Spector Louis Terracio and Marcia Welsh</td>
</tr>
<tr>
<td>$1,000</td>
<td>Anonymous* Academy for Academic Leadership</td>
</tr>
</tbody>
</table>

*Represents all Anonymous donors
Matching Gifts

The following corporations have generously matched gifts that were made to the College of Dentistry from September 1, 2014 through August 31, 2015:

IBM International Foundation
PartnerRe US

Below $1,000

* Represents all Anonymous donors
"In reflecting on my personal motivation — as well as the motivation of Team Schein — to sustain our deep commitment to giving back to society, I would say that we are driven to do this work every day because we see the tremendous difference that each and every one of us can make in improving the lives of those in need."

— Stanley Bergman
Chairman and CEO, Henry Schein, Inc.

Read more about Mr. Bergman’s personal and corporate philanthropy on page 52, “A Conversation with Stanley Bergman.”