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Columbia DENTAL MEDICINE

COLUMBIA UNIVERSITY College of Dental Medicine

Fall/Winter 2016

- Columbia Dental at 100
- One on One with the Dean
- Big Data for Better Dentistry
- FY16 Donor Report



a New Generation

Students, Recent
Graduates Embrace
a Changing Dental
Landscape



Dear Readers,

Welcome to our redesigned magazine, *Columbia Dental Medicine*. The magazine's title and content were chosen to reflect oral health care's rightful position within the field of medicine,

a relationship acknowledged when the college was established at Columbia 100 years ago as one of the nation's first university-affiliated dental schools.

The College of Dental Medicine is undergoing exciting growth and transformation, as you will read in the pages that follow. As part of this evolution, we plan to strengthen our connection and conversations with you.

You will see *Columbia Dental Medicine* in your mailbox twice a year and we hope to hear from you at least as often. If you are a graduate of the college, please send us your news—however big or small—for Alumni Notes, so we can celebrate your accomplishments. If you are a supporter or friend of our college, we invite you to let us know what is important to you by sending Letters to the Editor.

We will always welcome feedback and questions. Our community of alumni and other supporters is a source of strength and pride for the College of Dental Medicine. Your support helps our college nourish future generations of dental medicine leaders for years to come.

Sincerely,

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Columbia Dental Medicine is published twice a year for alumni, faculty, students, and other supporters of the College of Dental Medicine at Columbia University.

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Features



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A Dental Student for Our Time: Holistic, Community-Minded, Diverse, Transformed

By Jonathan Sapers

Today's Columbia dental students have found in the College of Dental Medicine a school that embraces scientific and technological advances, new data management tools, and an expanded commitment to serve communities both near and around the world.

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Columbia Dental Medicine at 100: People, Events, and Milestones that Define the School's First Century

By Martha T. Moore

Ever since Joseph Schroff and Sidney Kramer enrolled in 1916 as the first students to study dentistry at Columbia University, Columbia has been building a world-class dental school that has fulfilled its commitment to educate dental students, conduct research to improve oral care, and serve the community.



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ON THE COVER: Five members of the next generation of dentists pose in the College of Dental Medicine. From left are Divya Khera, Scott Bueno, Chelsea Townes, Mary Awadallah, and Victor Lee. Story, Page 14.

CREDIT: Jörg Meyer



Future Thinking

Fourth-year student Jonathan Lomboy interviewed Dean Christian Stohler about his first three years as dean, trends that are impacting the profession, and how the college is responding.

JONATHAN LOMBOY'17: The school is marking its centennial but my classmates and I are looking to the future. What new challenges do you see facing the next generation?

DEAN STOHLER: You are entering our field at a unique moment. I don't think any generation of dentists has faced the magnitude of change that our students will confront in the next few decades. You will be impacted tremendously by scientific advances: Continued advances in technology, personalized medicine, and bioinformatics will force all health care disciplines to think in different ways. The boundaries between fields and treatments will change. In the coming years, treatments will focus on genes, and that change will have a huge impact on the way care is delivered.

From a delivery standpoint, the evolving health care system will likely have a large impact on your career. Because it introduces the government as a significant payer for dental care, the government will have a larger influence on reimbursement systems. We can't fully predict the

outcome, but we know that reimbursement is shifting toward value-based models in medicine.

Unfortunately, no one has been thinking about the value of dentistry. We know the value of a procedure. But what value do you place on helping a person keep his or her teeth for life? These are important questions that your generation will have to wrestle with.

LOMBOY: Last fall marked the beginning of your fourth year as dean and my fourth year as a student. Let's discuss what you have done during that time.

STOHLER: One of our priorities has been improving the administration of our curriculum. After an analysis of how other schools at Columbia manage this, we decided that the College of Physicians & Surgeons has the best structure. We have strengthened the curriculum management team and have started to implement changes aligned with the P&S structure. I think that the education our students get through the P&S curriculum is very good—I've never seen

such a spectacular curriculum—but I felt that the curriculum on the dental side needed updating, which we have begun.

We have to teach you how to practice in a changing health care delivery environment. For example, we talked about reimbursement. That's why we hired Joseph Errante as senior associate dean of clinical affairs. Joe has made a career of successfully navigating through uncertainty in several health care sectors, including dental group practice, the insurance industry, and consulting. He has quickly helped us increase revenues by implementing changes in our revenue cycle processes. A skill like that is good for the school as we grow, which we must do, but he will also be an invaluable resource to our students.

We also have made a commitment to you regarding tuition, promising that once you know what your base tuition is, we keep increases in the range of cost of living increases. That way you know what your total debt load is going to be. We are committed to that.

LOMBOY: I am disappointed that I'll never get to experience the new fifth floor clinic scheduled to open in summer 2017, but please talk about the plans.

STOHLER: The plans for the clinic and simulation facility on VC-5 are very exciting. There will be state-of-the-art equipment and software for our students and faculty, but the greatest advance is how it will impact our ability to conduct research. We will be collecting an enormous amount of data about patient care. We will monitor patient traffic, wait times, how instruments are used, and so forth. That data can be analyzed to support research and, ultimately, clinical decision-making. We will be using data streams to inform our practice and our education models and to improve cost effectiveness without sacrificing quality.

LOMBOY: Tell us about your plans to expand the school's work on global oral health issues, one of your priorities.

STOHLER: We have long had programs abroad, but much of the thinking is about how to

work globally in a way that makes a lasting impact, not just on our students and not just on individual patients. While traditional service mission trips have been popular, we know from research that a single day of care does not have lasting impact—we need to work collaboratively, build local capacity, and really address the needs specific to the places we visit. We are starting this now with new programs in Kenya, Guatemala, and elsewhere. But on a larger scale, a global engagement task force of the CDM Board of Advisors has been helping us to consider how best to achieve our goals.

I also have appointed a Global Initiatives faculty group to begin working on curriculum changes that will provide an important framework for global education.

LOMBOY: Does the school have any plans to move?

STOHLER: No. Our location in Vanderbilt Clinic in the heart of the medical center gives us an inter-professional interface many dental schools lack. Rather than lose that, we decided to renovate to maximize the space we have, using it in a more effective manner without leaving the “superblock” of the medical center.

LOMBOY: We have started to celebrate our centennial. What does this anniversary mean to the school?

STOHLER: In my opinion, the most important event in the school's history happened 99 years ago with the foundation for the College of Dental Medicine. The founders made a commitment to advance dentistry as a part of medicine. That's our legacy. It's a tradition that we need to polish a bit but we are lucky today to have such a strong partner in the medical school. My role as dean is made stronger through an exceptional partnership with the medical school dean, Lee Goldman. While celebrating our legacy, we need to also focus on our future. By combining a commitment to our future with a celebration of our past, we will best serve the College of Dental Medicine, its students, and its alumni.

“““

You are entering our field at a unique moment. I don't think any generation of dentists has faced the magnitude of change that our students will confront.

— Dean Christian Stohler



Kavita P. Ahluwalia leads a session at the East Africa Oral Health Summit.

GLOBAL REACH

Changing Oral Health Care in Kenya

Oral health is not part of public health policy in Kenya, a country in East Africa with nearly 42 million people, but Columbia experts are contributing to plans to change that.

Columbia was part of a partnership that conceived and organized the East Africa Oral Health Summit in March in Nairobi. Among the CDM faculty attending the summit was Kavita P. Ahluwalia, DDS, associate professor of dental medicine. “The budget for oral health at the Ministry of Health Kenya is \$3,500 and there are only about a thousand practicing dentists,” she says. “That’s one dentist for every 42,000 people, far short of the WHO’s recommended ratio of 1 dentist to 7,000 persons.”

More than 100 oral health experts from Kenya, Uganda, Tanzania, and the United States attended the two-day summit to discuss ways to create a sustainable model

of oral health care delivery. Participants focused on ways to use health care workers not specifically trained in dentistry to prevent and manage oral health issues.

“I always wanted to go back home and do work in my own country,” says Dr. Ahluwalia, a fourth generation Kenyan. “It’s very exciting because we’re really helping Kenyans think through their problems and find local solutions.”

Dr. Ahluwalia says she hopes that addressing the need for better oral health care in rural parts of East Africa and helping residents understand its connection to overall health will bring more visibility to oral health. “The mouth is vital to so many functions: eating, drinking, singing, talking,” she says. “It’s vital to who we are.”

Living in a rural part of East Africa can make it nearly impossible to

see a dentist, says Dr. Ahluwalia. The closest dentist may be up to 60 miles away and patients have limited transportation options. Deterioration of oral health is associated with an increased risk for cardiovascular disease, diabetes, and stroke. An estimated 1 in 20 adults in Sub-Saharan Africa also lives with HIV, according to 2014 data from the World Health Organization, increasing the risk for gum disease, decay, and oral lesions.

One of the biggest challenges in Kenya is changing the way people view oral health

Among the participants at the summit was CDM Dean Christian Stohler.



care and prevention, says Stephen Nicholas, MD, professor of pediatrics in the College of Physicians and Surgeons and professor of population and family health in the Mailman School of Public Health. Dr. Nicholas also attended the summit, part of the Children's Global Oral Health Initiative of the IFAP Global Health Program at Columbia.

"A lot of it is fatalism and just thinking that everybody gets rotten teeth," says Dr. Nicholas. "The challenge is to change that notion. Our response is a Western methodology, which is toothbrush and toothpaste, and we know that works, but if you only make a few pennies a day, you can't afford toothpaste, so there's obviously economic limitations, too."

Christian S. Stohler, DMD, DrMedDent, dean of the College of Dental Medicine, also participated in the summit and noted the importance of thinking about oral health care in terms of systemic disease.

Dr. Ahluwalia says she hopes to lay the groundwork for new partnerships to tackle dental problems in Kenya, helping to train local health care workers to prevent tooth decay. "We must create some clinical guidelines for nurses or medical staff so they can provide help," says Dr. Ahluwalia. "The public infrastructure demands that in these areas."

In July and August, five students from CDM, the Mailman School of Public Health, and the Columbia School of Nursing spent time in Kenya completing research under the mentorship of Dr. Ahluwalia and University of Nairobi professor Regina Mutave. The students worked with teachers, clinical officers, and social workers to address oral health and develop a sustainable system to provide oral health prevention to grandparents and children affected by HIV in a village designed to provide homes for those orphaned by the virus. Dr. Ahluwalia says she hopes to strengthen local and international partnerships through these kinds of projects and hopes that additional funding can be directed to oral health through such initiatives.

JENNY ARMSTRONG '18



// COMMUNITY HEALTH

Give Kids a Smile Day 2016

Dozens of CDM students, faculty, residents, and community dental providers participate in Give Kids a Smile Day every year. Hundreds of elementary school students are seen each year, a number that has increased annually since Columbia started participating in the American Dental Association-sponsored program in 2003. In the photo above, Divya Khera '15 completes a dental screening on a young student at Dos Puentes Elementary School in Washington Heights at February's Gives Kids a Smile Day. Children who participate receive dental screenings, exams, and follow-up care, including orthodontic care, pain treatment, cleanings, and sealants.

// STUDENT NEWS

Match Day

Graduating students matched in nearly every specialty during the 2016 Match Day. The Postdoctoral Dental Matching Program places applicants for their first year of training in numerous programs: U.S. general practice residency, advanced education in general dentistry, pediatric dentistry, orthodontics, oral and maxillofacial surgery, and dental anesthesiology.

Graduating students received their results via email, and all 77 graduates in the Class of 2016 either matched or started in private practice this year. The most popular match was for general practice residency, with 25 students matching, followed by matches in oral and maxillofacial surgery (9), orthodontics (9), advanced education in general dentistry (9), and pediatric dentistry (8).

The match process is supervised by a steering committee composed of representatives of each of the sponsoring organizations, the Special Care Dentistry Association, American Academy of Pediatric Dentistry, American Association of Orthodontists, American Association of Oral and Maxillofacial Surgeons, American Society of Dentist Anesthesiologists, and American Student Dental Association.

Predoctoral Graduation and Class Day

In May, Columbia University welcomed 78 DDS graduates to the ranks of more than 300,000 alumni during the commencement week ceremonies.

At the CDM graduation ceremony, Dean Christian Stohler recognized the exceptional efforts of the class and stressed how the new dentists will help shape the future of oral health care delivery. Guest speaker Melissa Begg, ScD, vice provost for academic programs at Columbia and professor of biostatistics at the Mailman School of Public Health, urged the graduates to “remind yourself every day that you were called to heal and do so with pride and skill.”

In addition to completing a rigorous curriculum that included patient treatment, members of the Class of 2016, who represented 15 states and 53 colleges, were devoted to many extracurricular activi-

ties during dental school, including community service, global outreach, and research.

The graduates have begun post-doctoral or residency programs in oral maxillofacial surgery, pediatric dentistry, orthodontics, endodontics, periodontics, or prosthodontics; started dual degree programs; or started work in private practice.

On Class Day, when graduates received individual honors, faculty speaker Richard Lichtenthal, DDS, outgoing chair of the Section of Cariology and Restorative Sciences, urged graduates to take advantage of new digital technologies in the field without losing sight of the value of making personal connections with their patients.



Student awards presented at the 2016 Class Day ceremony:

Awards of Exceptional Achievement

Highest Academic Achievement Award
Ross Aronson

Alpha Omega International Dental Fraternity Award for Academic Achievement
Christopher Low

New York Academy of Dentistry Exemplary Professional Conduct Award
Lewis Chen

Ella Marie Ewell Award (for distinguished service to fellow students)
Evan Chang

College of Dental Medicine Leadership Award
Raphael Liy

Milton G. Schlesinger Research Excellence Award
Neeraja Prabhakaran

College of Dental Medicine National Student Leadership Award
Ashli Cumberbatch

Omicron Kappa Upsilon Key (for outstanding scholarship)
Ross Aronson
Bianca Cabri
Tiffany Campbell
Lewis Chen
Tiffany Chen
Jeffrey Farr
Christopher Low
Brittany Martin
Jessica Quick

Columbia Visiting Professor Program Student Scholars (sponsored by the Colgate-Palmolive Company)
Lewis Chen
Yehuda Isseroff

New York State Dental Foundation Deans Award (presented to third-year students for academic accomplishment, committed service, and membership in the American Student Dental Association)
Lynda Asadourian
Mary Awadallah

The Campbell Award (for leadership and Columbia spirit)
Alexandra Greco

Awards of Excellence
(to students who have demonstrated the highest proficiency in a specific aspect of dentistry)

College of Dental Medicine Dental Practice Administration Award
Liza Horbar

Divisional Excellence Award in Behavioral Science
Anshul Mainkar

Divisional Excellence Award in Community Health
Chelsea Townes

Divisional Excellence Award in Pediatric Dentistry
Brianne Donohue
Jessica Quick

Divisional Excellence Award in Endodontics
Sean Kim

Divisional Excellence Award in Oral and Maxillofacial Surgery
Yakov Yakubov

Divisional Excellence Award in Oral Biology
Yakov Yakubov

Divisional Excellence Award in Operative Dentistry
Liset Perez

Divisional Excellence Award in Orthodontics
Ross Aronson

Divisional Excellence Award in Periodontics
Ryan Price

Divisional Excellence Award in Prosthodontics
Lewis Chen

Divisional Excellence Award in Stomatology
Clayton Warder

Divisional Excellence Award in Epidemiology and Biostatistics
Clayton Warder

Postdoctoral Graduation

Seventy-one graduates received certificates or master's degrees in June at the postdoctoral graduation ceremony held in the historic United Palace Theater in Washington Heights. The graduates, who came from across the United States and 12 countries, completed from one to five years of study in dental public health, endodontics, professional achievement in implantology, orthodontics, periodontics, prosthodontics, advanced education in general dentistry, general practice residency, pediatric dentistry, oral & maxillofacial pathology, and oral & maxillofacial surgery-MD integration.



Richard Yoon, chair of the Section of Growth and Development, and Steven Chussid, director of the pediatric dentistry residency program, pose with graduates of the pediatric dentistry residency program, a joint program with NewYork-Presbyterian Hospital and Morgan Stanley Children's Hospital. The graduates, from left: Kimberli de Brito Leal, Rona Salomon, Keren Etzion, Alexandra Delfiner, and Evan Mann Cyrkin.

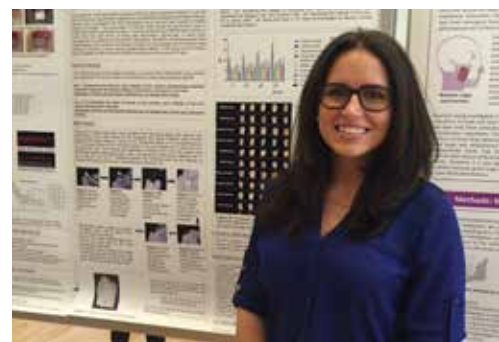
Birnberg Research Program 2016

More than a dozen CDM predoctoral and postdoctoral students mentored by a multidisciplinary faculty received honors at the 59th Birnberg Research Program April 13 and 14, 2016. Per tradition, the annual program, hosted by the college's student research group, the Jarvie Society, showcases dental research by students through poster presentations and includes a lecture by the recipient of the Birnberg Research Medal Award of the Dental Alumni of Columbia University. This year's recipient, Rena D'Souza, associate vice provost for research and professor of dental sciences, neurobiology & anatomy, and pathology at the University of Utah, gave a lecture on "Novel Treatment Strategies for Craniofacial Disorders."

Predocutorial and postdoctoral students presented 52 posters in the fields of basic science, clinical science, and public health, and in the postdoctoral category. They were mentored by 28 faculty from CDM and other schools, including the College of Physicians and Surgeons and the Fu Foundation School of Engineering and Applied Science. Thirty-four medical center faculty judges reviewed the poster presentations and selected winners. All poster abstracts were published in the 2016 Jarvie Journal produced by the Jarvie Society.

Winners in the basic science category, Shaun Darrah and Yena Jun, were chosen to represent CDM at the Hinman Student Research Symposium, a national meeting that features oral and poster presentations of research studies by dental students and graduate trainees from dental schools across North America.

Predocutorial student Paul Lee received the Dentsply Student Clinician Research Award and represented CDM at the annual session of the American Dental Association. Fabiola Douglas received the Colgate Dental Students' Conference on Research Award and attended the fall conference hosted by the American Dental Association Foundation. Rachel Vorwaller was selected to represent CDM at a national meeting, such as the National Oral Health Conference or the American Public Health Association annual meeting.



Fabiola Douglas, Class of 2017, beside her poster at the Birnberg Research Day

The first-place award recipients and poster titles (CDM mentors are listed in parentheses):

Predocutorial Basic Science

Shaun Darrah (Panos N. Papapanou), "Porphyromonas gingivalis lipopolysaccharide dose-dependently activates neutrophil gelatinase-associated lipocalin expression in oral keratinocytes"

Predocutorial Clinical Science

Paul Lee (Daniel S. Oh), "Etiological study of noncarious cervical lesions: effects of stress and biocorrosion"

Predocutorial Public Health

Rachel Vorwaller (Angela Ward, Burton Edelstein), "Reported use and perceived effectiveness of recommended communication techniques: fourth year students at CDM"

Postdoctoral

Jaffer A. Shariff (Kavita P. Ahluwalia, Panos N. Papapanou), "Relationship between frequent recreational cannabis (marijuana and hashish) use and periodontitis among U.S. adults: NHANES 2011-12"

CDM to Offer New Degree

The College of Dental Medicine has announced plans to offer a doctor of medical science degree in dental medicine—the Med ScD—starting in 2017 or 2018. The new degree will prepare dentists to be independent investigators and academic leaders by teaching research methodologies and supporting original scientific research during postgraduate training in the dental school's specialty programs.

A limited number of similar degrees are offered in the United States. Harvard University and the University of Pennsylvania are the only other Ivy League schools that offer scientific doctorate degrees that combine specialty and research training. “This degree will help us create the next generation of clinicians/scientists in the field of dental medicine,” says Panos N. Papapanou, DDS, PhD, professor and chair of oral, diagnostic, and rehabilitation sciences. “Graduates of the program will have a solid education in research methodology and a proven track record of original scientific production in their respective fields of study, all while becoming a specialist in their chosen field of dentistry. These independent investigators and academic leaders will be capable of generating new knowledge that will ultimately contribute to evidence-based enhancements in oral health care.”

The College of Dental Medicine has no degree higher than a master's degree other than the DDS degree.

To be eligible for the degree, candidates must have a DDS or DMD degree from an accredited U.S. institution or the equivalent education in dental medicine from a foreign country. Students who have completed postgraduate training at another accredited institution may enroll in the doctorate program if space allows, says Dr. Papapanou, who authored the Med ScD program proposal that was approved by the university, but the

degree is intended for dental school graduates who want to combine their postgraduate training with work toward a doctorate.

The curriculum will consist of coursework, clinical training, research training, and research in one of CDM's specialty programs: endodontics, pediatric dentistry, oral and maxillofacial surgery, orthodontics, periodontics, and prosthodontics.

Students will choose a combination of required and elective courses based on a thesis research project and participate in clinical and research training each year with a gradually increasing focus on research training and original research.

The length of the Med ScD in dental medicine degree will be determined by the student's specialty. For example, a specialty in orthodontics, periodontics, and prosthodontics will take six years; a combined program in oral and maxillofacial surgery will take nine years.

A doctorate-level degree is typically required for an academic career outside of the United States, so Columbia's new degree should be welcomed by CDM's foreign students and graduates who in the past have gone elsewhere to seek training and an advanced degree beyond the DDS. The new degree should make CDM more competitive among all applicants seeking the most advanced training in dentistry.

“The United States does not have enough dental clinicians/scientists with successful independent research programs,” says Dr. Papapanou. “This doctorate will enable us to provide the advanced education, training, and degree that will prepare graduates for professional careers that focus on research and academia.”

Application requirements for the new doctorate will be described in detail on the CDM website once the program receives New York state approval, which may take up to a year.

Consortium for Maxillofacial Radiology Receives Funding

In the fourth round of funding from the Columbia President's Global Innovation Fund, a project led by Samuel J. Zeichner, DMD, associate professor of dental medicine and director of the Division of Oral and Maxillofacial Radiology, received a grant.

The President's Global Innovation Fund awards grants for faculty members to leverage and engage Columbia Global Centers as a way to develop new projects and research collaborations that will increase global opportunities for research, teaching, and service. Dr. Zeichner's project, “Columbia University International Consortium for Maxillofacial Radiology,” was one of 12 projects funded after review by a committee of senior faculty from both the Morningside and medical center campuses.

The Columbia University International Consortium for Maxillofacial Radiology is an inter-institutional, cross-disciplinary project that addresses the critical global shortage of physicians or dentists trained in maxillofacial radiology. The project brings together 10 of the world's most seasoned maxillofacial radiologists to form a faculty hosted at Columbia University Medical Center. The goal of the program is to provide high-level training to surgical residents, radiology residents, pathology residents, and medical and dental students at CUMC while simultaneously engaging medical/dental trainees across the globe via bimonthly teleconferences. Dr. Zeichner's project received the support of Columbia's East Asian Global Center.

LEAVE YOUR LEGACY AND BUILD ON OURS

ONE HUNDRED YEARS AGO William Gies left his legacy as the founding father of modern dentistry. By naming Columbia University College of Dental Medicine as a beneficiary of a planned gift, such as a bequest, charitable gift annuity or charitable trust, you will benefit the College, and become a member of the William Gies Society.

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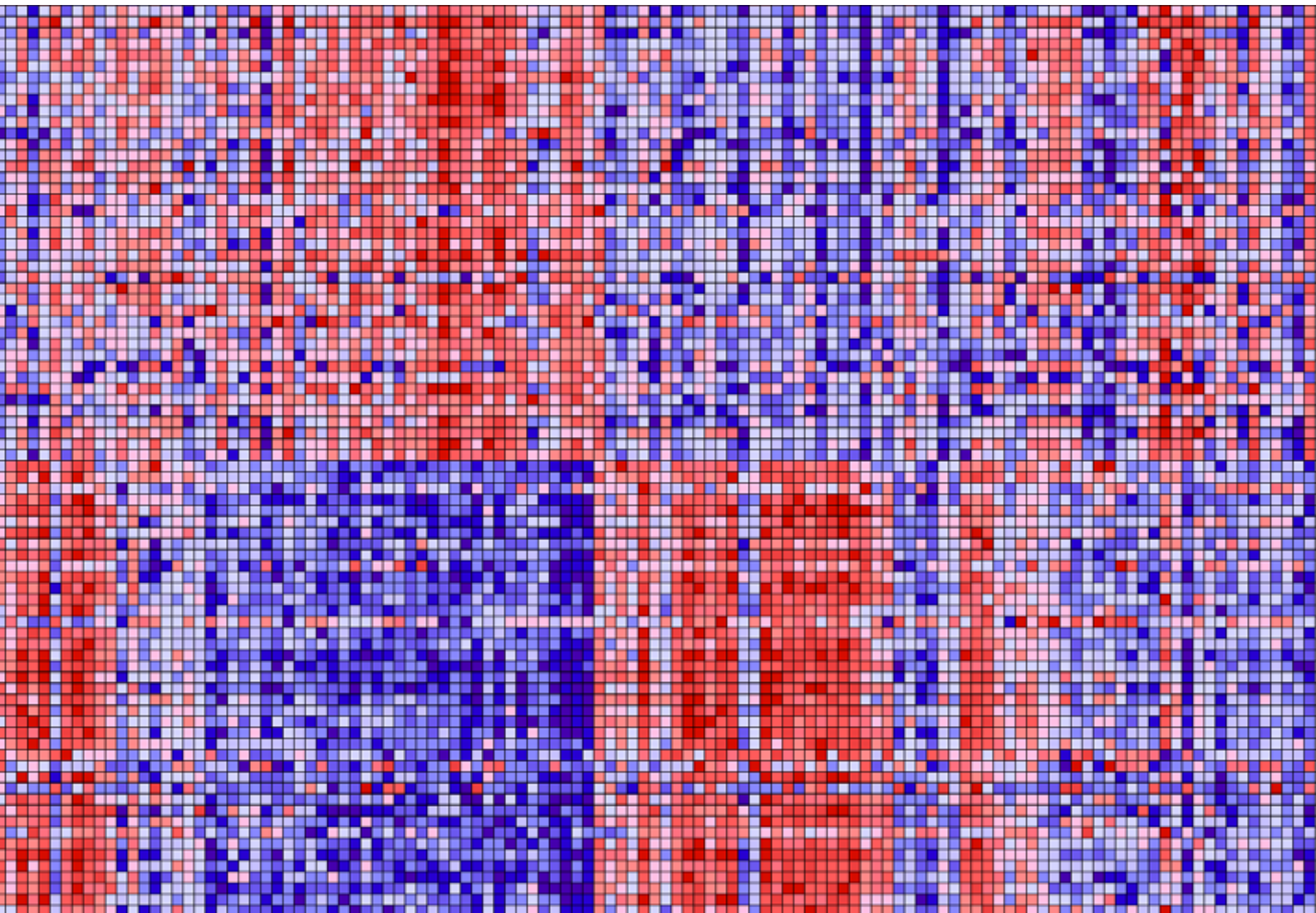
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Researchers Identify Key Genes Behind Periodontal Disease

Researchers led by Panos N. Papapanou, DDS, PhD, professor and chair of oral, diagnostic, and rehabilitation sciences at CDM, used genome-wide reverse engineering of healthy and diseased gum tissue to identify key genes that regulate pathways involved in the development of periodontal disease.

The researchers identified genes that serve as master regulators, i.e., are central to the deployment of pathways that may cause periodontitis. The finding is a vital step toward developing less invasive methods for early detection of severe periodontal

disease. The finding also could help identify compounds that can be used in targeted, individualized treatments of severe periodontitis, before loss of teeth and supportive bone occurs. The findings were published in the *Journal of Dental Research*.

Not all genes are created equal. In gene expression studies, investigators typically find those genes that are expressed at a different level between healthy and diseased tissues. Unfortunately, such studies fail to identify causal genes that have outsized effects

Transcriptomic heatmap
of gene expression in
gingival tissues

on several pathways although their own expression changes are small, or to distinguish among the genes that drive pathology and those that are carried along on the cascade of events triggered by the driver genes—secondary passengers, if you will.

Dr. Papapanou and his team sifted through the thousands of genes that differ between healthy and diseased gum tissue to identify the 41 key genes that regulate pathways that account for the development or maintenance of periodontal disease.

“Our approach narrows down the list of potentially interesting regulatory genes,” says Dr. Papapanou. “Having a handful of genes that really represent the key players in the process is very important because then you can focus on those genes instead of the whole transcriptome.”

To identify the relevant genes, Dr. Papapanou partnered with investigators in Columbia’s epidemiology, systems biology, and biomedical informatics departments who have developed algorithms to reverse-engineer the regulatory genes behind tumor growth. The team started by detailing all of the messenger RNA expressed in healthy or inflamed gum tissues collected from 120 patients with periodontal disease. They applied the ARACNE algorithm developed at CUMC to create a network model of interactions among genes and then used the MARINA algorithm to identify genes that disrupt healthy tissue and drive the transition from gingival health to pathology.

By focusing on the global effect on tissue health of the periodontal master regulator genes, investigators will be able to test

compounds that interrupt their action and create treatments in the future that may stop periodontal disease at its source. “Now it’s important to do the downstream work to test these genes in experimental models,” says Dr. Papapanou. The recent study used tissue samples collected during surgical procedures under local anesthesia. Now that they have identified the master regulator genes most relevant to periodontal disease, researchers are refining their biopsy methods to develop minimally invasive approaches that require no or only minimal numbing of the gums.

Many of the genes identified by Dr. Papapanou and his team are implicated in immune and inflammatory pathways, confirming clinical observations of the development of periodontal disease.

In earlier work, Dr. Papapanou and his collaborators detailed the transcriptomic patterns associated with two forms of periodontal disease, paving the way for a new system for classifying disease based on its genomic signature. The current project extends that work, homing in on the pathways that exert the most influence on the cascade of pathology.

“““

Having a handful of genes that really represent the key players in the process is very important.

New Center Harnesses Big Data, Technology for Better Dentistry

To prepare for the rapid changes in the health care environment in the coming decades, the College of Dental Medicine has created the Center for Bioinformatics and Data Analytics in Oral Health to harness the power of data to inform patient-centered dental care.

In September, Dean Christian S. Stohler, DMD, DrMedDent, announced the recruitment of Joseph Finkelstein, MD, PhD, as associate professor of health informatics in dentistry to co-found and direct the new center. Joseph V. Errante, DDS, senior associate dean for clinical services,

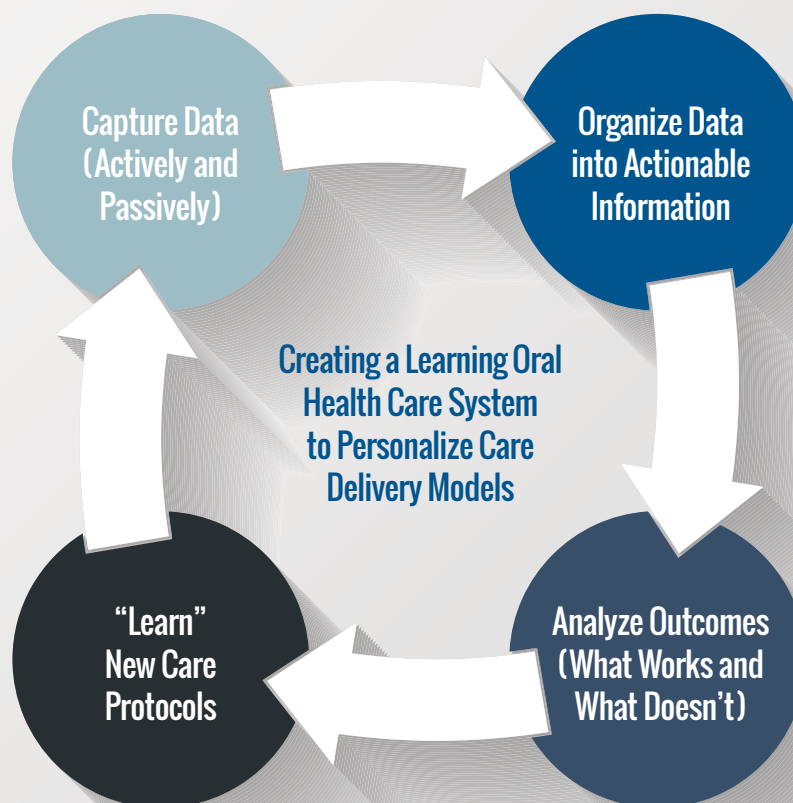
will be co-director. Dr. Errante joined the school in early 2016 to lead change management efforts to improve clinical performance in health care outcomes, compliance, and finance.

“The data we will gather from the new operatories planned to open on VC-5 in 2017 are unprecedented and extremely exciting,” says Dr. Stohler. “For example, we expect to track how care is delivered, how patients respond, and patient and provider stress levels during treatment. Under the leadership of Drs. Finkelstein and Errante, this new center will transform

that data into information to inform teaching and clinical practice and offer tremendous new research opportunities.”

Dr. Finkelstein focuses on the development and implementation of innovative technologies that support personalized care. “I really wanted to be part of the College of Dental Medicine because it has a long tradition at the forefront of dental informatics,” says Dr. Finkelstein, noting in particular the 1991 publication by Columbia faculty member John Zimmerman, DDS, of “Dental Informatics,” an important early textbook on oral health informatics.

In a Learning Health Care System, Research Influences Practice and Practice Influences Research



A hub of research and education, the center will focus on individualized patient care as well as patient satisfaction. “Health care costs have been spiraling to unsustainable levels with estimates of 30 percent of the costs attributed to waste and errors,” says Dr. Errante. “This requires more knowl-

tal group practices, and niche health care delivery systems—gives him unique insight into the problems facing health care systems and practical solutions to address them.

For example, the creation of interactive tools, including surveys before and after visits, will allow patients to be more effectively engaged in their oral health care. Passive data collection tools like a patient wait-time tracker will allow providers to assess the efficiency of resources for care delivery. The utilization of emerging technologies will offer opportunities to improve payment structures in systems of oral health care.

This interdisciplinary work will rely on contributions from a number of collaborators. “Part of the goal of the center is to use data analytics to better understand the interconnections between oral health and systemic diseases, so we will engage specialty medical providers as collaborators in this analysis,” says Dr. Finkelstein. “This will truly be a collaborative endeavor with partners including the schools of public

health, engineering, business, social work, and more.”

In addition to offering educational programs—new degrees and fellowships in dental informatics may be on the horizon—the center will facilitate the expansion of the school’s research portfolio in data sciences and precision medicine. The development, collection, and analysis of extensive data from sources such as the forthcoming center for digital dentistry and simulation learning—a high-tech clinic space featuring 48 operatories scheduled for 2017—will advance evidence-based scholarship in oral health informatics and also support faculty and clinical activities.

“This center will allow faculty from the college and beyond to utilize tremendous resources and implement them in a learning health care delivery environment,” says Dr. Finkelstein. “In a learning health care system, research influences practice and practice influences research. This will establish a continuous cycle of care improvement that prioritizes each individual patient.”

“““
Use of emerging technologies offers opportunities to improve payment structures in oral health care systems.

edge of and precision with therapies that produce outcomes predictably.” Dr. Errante’s experience as a clinician and entrepreneur—he has built, operated, and sold leading dental benefit businesses, large den-



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COLUMBIA UNIVERSITY
College of Dental Medicine

A DENTAL STUDENT FOR OUR TIME:

Holistic,
Community-Minded,
Diverse,
Transformed

By Jonathan Sapers



VICTOR LEE
FOURTH YEAR DDS
INTEREST:
PROSTHODONTICS



MARY AWADALLAH
FOURTH YEAR DDS
INTEREST:
ORTHODONTICS

When Victor Lee was studying pharmacology as a pre-med student at Stony Brook University, he was sure of one thing in terms of a career goal. “It’s really funny because I actually did not want to be a dentist at all,” says the fourth-year student at Columbia University College of Dental Medicine. “It was literally the last thing on my list.”

The reason was personal. His father had been a dentist in China but had given it up to get his family to the United States. After arriving here, he worked odd jobs to feed his family, says Mr. Lee, including cooking in a takeout restaurant. But he never forgot his previous profession and encouraged his son to pursue it. “You should think about it,” his father kept suggesting. “Think about it.”

After graduating from Stony Brook, Mr. Lee did think about it. He tried working in two dental offices and became so inspired by the dentists he worked for that he did change his mind. “They were really good mentors,” he says. “I really liked the way they interacted with their patients. It was definitely eye-opening.”

He studied hard for the dental school entrance exams and did well, but did not get accepted to Columbia on his first attempt after taking the test late and missing the application deadline. Still, he remembers loving the school’s atmosphere and can even name the students he met during his visit.

Over the next year, he kept in touch with the school, kept working at the dental offices and, in his spare time, coached a local dragon boat team (a kind of competitive rowing that takes place in a 20-person craft mounted with a dragon’s head). He also competed in the world dragon boat championship in Europe. He was accepted at Columbia on his second try and hit the ground running.

Something of a self-described wallflower at Stony Brook, Mr. Lee has been transformed at Columbia. He is a chatty popular campus character, greeting other students as he gives a visitor a tour and joking with faculty and administrators. He has served as an admissions ambassador and vice president of the American Student Dental Association and is president of his class. He is also studying at

COLUMBIA PREPARES STUDENTS FOR CAREERS IN THE NEW DENTAL LANDSCAPE



SCOTT BUENO
THIRD YEAR DDS
INTEREST: ORAL AND
MAXILLOFACIAL SURGERY



DIVYA KHERA
DDS 2015
PEDIATRIC DENTISTRY
RESIDENT



CHELSEA TOWNES
DDS 2015
PEDIATRIC DENTISTRY
RESIDENT

"I NEVER REALLY UNDERSTOOD WHAT SCHOOL SPIRIT WAS ABOUT UNTIL I GOT HERE. MAN, I'M PRETTY PROUD TO SAY I'M FROM COLUMBIA."

— VICTOR LEE



night for a dual degree in science education at Columbia's Teachers College and will remain at Columbia next fall for a prosthodontics residency. He is a dyed-in-the-wool devotee of all things Columbia. "I never really understood what school spirit was about until I got here," he says. "Man, I'm pretty proud to say I'm from Columbia."

Welcome to the new world of Columbia's College of Dental Medicine, where the venerable school is evolving to adapt to and shape a profession being transformed by scientific advances, drawing on its tradition that requires students to take their first year and a half alongside medical students. It is for that reason, even as it begins to implement a new master space plan, that it never considered leaving its facilities within Columbia's medical center. Sharing a campus not only with the medical school, but also with schools of nursing and public health benefits the school as it anticipates a future where dentistry will become more deeply integrated with the total health care system.

"We have drawn a line in the sand that we are going to educate our graduates as oral health physicians," says Dennis Mitchell, DDS, vice provost for faculty diversity and inclusion and associate professor of dental medicine. "It's clear that parts of our profession are moving against that and away from that. But we're holding the line."

More than holding the line, the school is further advancing its integration of oral health care into general health care through facilities renovation. It has acquired an additional floor in the Vanderbilt Clinic to build a modern clinic with chairs that are not only equipped with the latest technology but also are designed to accommodate the new approach to dentistry that the school believes is just around the corner if not already here: general dentists sharing space with nurses and social workers and practices with colleagues across the specialties, including pediatric dentists and orthodontists.

Significant change is coming as dentistry is swept into the insurance fold by inclusion of children's dental care in the Affordable Health Care Act, says James Fine, DMD, senior associate dean for academic affairs.

The change will require a shift in perspective for dentists, who will need to take an increasingly holistic approach. "You approach the patient in a holistic manner, starting with the patient's mind, and factor in the patient's well-being," says Dr. Fine. "You then move to the whole body, and then head and neck, then to the jaw, and then, finally, to the teeth."

From the insurance perspective, it will no longer be acceptable for dentists to avoid tracing oral health issues back to other causes, such as diabetes, smoking, and alcohol use. "Given the inclusion of dental care in the evolving health care system, we expect to see changes in the way dentists are reimbursed," Dr. Fine says. "We'll be reimbursed for helping maintain the overall wellness of the patient. What matters is not that you fixed one tooth but you prevented the patient from losing the rest of his teeth."

The new approach will require more holistically and humanistically trained dentists, attentive to issues beyond the mouth. The school has a pain management clinic where nursing and social work students work alongside dental students to diagnose patients' discomfort. The school also has increased the amount of time students spend in clinic training.

Dr. Fine believes this new wider focus may, in time, replace the solo practitioner model of care. "Like optometry and medicine before it, dentistry will be incorporated into larger systems of care," he says.

And Dr. Fine believes the pace of change in the profession, accelerated by technology and research, will be breathtaking. "It used to be that you could train a student without anticipating a lot of changes in how they would practice five, 10, 15, even 20 years



down the line,” he says, “but the impact of outcomes research and technological advances is increasing. In five years, our students are going to start seeing changes in treatments, techniques, reimbursement, and data management.”

One way the school has begun to prepare students for these changes is by offering dual degrees that broaden students’ abilities. The school is also spending more time exposing students to new technology. “For decades, we would put a tiny piece of film in the patient’s mouth and just take images of the tooth,” Dr. Fine says. “We’ve moved to imaging larger parts of the patient’s head and neck areas and using 3-D images to help provide more accurate diagnoses. We use scanners connected to 3-D printers so instead of taking an impression of your teeth to make a replacement, we scan the area and have it 3-D printed or milled or CAD-CAMed.”

But Dr. Fine says the new realities of dentistry will not be the school’s only concern. It also will focus on expanding students’ participation in working with underserved communities in accordance with Columbia University’s core values. “One of Dean Christian Stohler’s goals is that we will offer more care to underserved populations in locations ranging from Manhattanville to other parts of the world. We want to instill a commitment to serving the underserved early on in our students’ careers.”

Simultaneously, the school has begun to tweak its admissions efforts. Not by adjusting its high standards (the school has vied with Harvard for first and second place in terms of the academic excellence of its admitted students for the past decade), but, as Sandra Garcia, assistant dean of admissions and student affairs, puts it, “really paying attention to everything else.” And one constant in the new student population seems to be the school’s apparent success in attracting students who already have an interest in working with the underserved communities that Dr. Fine mentioned.

For example, Mary Awadallah, a fourth-year student who will begin her residency in orthodontics at Montefiore Medical Center next fall, missed the opportunities she had while at Yale to mentor younger girls and decided to start a mentoring program at Columbia called Bloom. “We go once a week, mentor the middle school girls, talk to them about different subjects of relevance to middle schoolers—body image, healthy eating, racism and sexism, personal identity, confidence building,” Ms. Awadallah says.

Middle school is a difficult period and Ms. Awadallah says sometimes just the physical presence of mentors helps. “When your confidence is wavering, through the peril, the turbulence of middle school, just having an older girl go and spend time with you shows you that you matter.”

Ms. Awadallah remembers going to the orthodontist as being a positive antidote to her own difficult middle school experience as a child of immigrant (Egyptian) parents growing up in suburban Long Island. And she dreams of one day having an orthodontic practice that would play the same role for other adolescent girls. “I want to have a practice where I’m seeing middle school and early high school kids and then seeing their siblings grow up and also needing ortho treatment and have everyone in the neighborhood say, ‘Oh, yeah, Dr. Mary’s my orthodontist.’”

Scott Bueno, a third-year student, also was inspired to start his own mentoring program by his experience in college. He was an officer with the Sage Mentorship Program at Berkeley, and during his interview at Columbia, he made a point of asking if he could start a similar program at CDM. He was gratified when his interviewer said Columbia was “the place to do it.”

So Mr. Bueno started Heights Helpers, which pairs dental students with sixth graders at a nearby charter school. “The idea is that you’re a positive role model for kids who need a little extra

“I WANTED TO BE IN
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I FELT THAT IT WAS
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FELT THE STUDENTS REALLY
HELPED EACH OTHER.”

– DIVYA KHERA



help in school,” Mr. Bueno says. “We go there weekly for an hour and a half. It’s a continued program because there are lots of programs where you’ll go in for the day, for the week, just long enough for the kids to learn to trust you and then you leave and you might not come back for a year or at all. So then the kids are afraid to trust anyone again.”

For Mr. Bueno, the program is an outgrowth of his interest in health care. “I like to give back and to help people,” he says. “I think it’s the kind of person you’re going to attract to the health care profession in general, but here at Columbia I see that more so than anywhere else that I interviewed.”

Cultivating an environment that welcomes student projects is taking on increasing importance for the school. Behind the scenes, Ms. Garcia says, setting up Heights Helpers was not a slam dunk. Several rounds of discussions were held before a framework could be developed. But having the flexibility to allow the students to build their own organizations and have a say in how the school operates is an important part of the school’s values system.

That spirit is also reflected in the extent to which students are now involved in the admissions process itself. According to Ms. Garcia, several years ago students began asking if they could participate in interviews with prospective students, could give students tours, answer their questions, and take applicants to lunch. So the school developed an admissions ambassador program.

The change sent a message to incoming students. “I think that when someone decides they want to come here after seeing that, they know that there’s an opportunity for them to be involved at that same level,” Ms. Garcia says. “And that as an institution we encourage students to be involved and we listen to them. I think that’s refreshing.”

Divya Khera, a 2015 graduate now in a pediatric dentistry residency at Columbia, says she immediately picked up from students

she met on her visit that Columbia would be different from her undergraduate experience. “Duke is pretty cutthroat especially when you’re in the sciences and I really wanted to be in an environment for grad school where I felt that it was collaborative and I felt the students really helped each other.”

Her parents, Indian-born physicians who came to the United States in their 20s, wanted her to go to the University of Pittsburgh, near her hometown of Erie, Pa. But when Dr. Khera was accepted at Columbia her father agreed to visit with her and see what had impressed her.

Dr. Khera’s father was won over by the admissions staff, particularly Laureen Zubiaurre Bitzer, DMD, associate dean for predoctoral admissions and associate professor of clinical dental medicine, known affectionately to students as “Dr. Z.” After a meeting and a tour with Dr. Z, Dr. Khera’s father was all in. “My dad’s like, ‘Yeah, you’re going here. I see what you mean.’”

The effort to focus on the “everything else” that Ms. Garcia referred to has resulted in a successful effort to diversify the student body, says Dr. Mitchell. Each 80-student class in the dental school now has a critical mass of underrepresented minorities—20 percent in each class and 24 percent for the newest class, the Class of 2020.

In 2002, the school’s percentage of underrepresented minorities was only 3 percent—one minority student in the first-year class. Since then, when Dr. Mitchell, a former public health dentist who now splits his time between the dental school and Columbia University’s senior administration, was called in to help improve the numbers, they have steadily climbed. One key factor Dr. Mitchell attributes to the change: The dental school created the dental component of what is now the Summer Medical and Dental Education Program, a program funded by the Robert Wood Johnson Foundation that brings pre-medical and pre-dental undergraduates



"MY DREAM WOULD BE TO
COMBINE PEDIATRICS WITH PUBLIC
HEALTH, COMMUNITY OUTREACH,
TEACHING, EVERYTHING."

– CHELSEA TOWNES

ate students of color to campuses across the country each summer. The program regularly yields dental school students. As Dr. Mitchell tells it, in 2002, a medical student in the program hosted by Columbia (the program did not then have a dental component) asked if he could focus on dentistry instead and the dental school helped him do it. "It just so happened the stars were aligned," Dr. Mitchell says. "There was a site visit that summer and the Robert Wood Johnson people interviewed the student about his experience. The foundation then asked us to consider piloting a dental program for a couple of years." Now, nine of the program's 12 sites host dental students in the summer (but none is more popular than Columbia's, Dr. Mitchell says).

The underrepresented minority students are showing impressive leadership qualities. Recent statistics include three of the past eight presidents of the Student National Dental Association (a historically black student dental association), successive trustees of the Hispanic Student Dental Association, and chapter of the year awards in both organizations, not to mention the first black student body president and the first black president of the American Student Dental Association.

Dr. Mitchell says he is not surprised by those achievements, but he points out that students only get to showcase those skills if they have their school's support, including a willingness to pay for students to travel to events. "Dean Stohler has placed a new level of energy and dedication on this," Dr. Mitchell says. "We didn't have resources targeted to bring our students to national forums before, and he has committed those resources."

For this year's Hispanic Dental Association meeting, for example, the school sponsored 18 students plus faculty members, the dean, and Dr. Mitchell. "We went there in force," Dr. Mitchell says, "just to remind everybody that Columbia is the place to be.

Also, it says to the other student leaders that they might want to consider coming to Columbia for residency or to specialize."

Support at school matters too. Each year Dr. Mitchell selects an older minority student to support and mentor younger ones. This year's selection was Chelsea Townes, an aspiring pediatric dentist from Hackensack, N.J., who in May received dual degrees from Columbia's College of Dental Medicine and the Mailman School of Public Health.

In college, Dr. Townes was interested in public health and worked for two summers in the Bergen County Health Department. Then she happened to go to her dentist. "We were just talking and I told him I was working at this public health department and how crazy political it is and how pressured it is. He asked me if I had ever thought about dentistry."

Dr. Townes had not, but she became interested and decided to give it a try. After graduating from Penn, she completed a postbac at Columbia before starting at the dental school.

Although her dentist and mentor had been concerned that Columbia might be too stuffy for her, Dr. Townes was pleasantly surprised. "They told us the medical curriculum had been condensed so a shift toward making sure we have more clinical work was possible."

That meant Columbia was a place where she didn't have to give up her former interest in public health. "I always knew I wanted to continue doing public health if I could," she says. "But doing clinical work and having one-on-one interactions with patients is definitely a goal for me. I don't want to ever just sit behind a desk and do research."

Dr. Townes has now started a pediatric residency on Long Island. "My dream would be to combine pediatrics with public health, community outreach, teaching, everything. But that would be a dream. I'll see if it actually happens."

Columbia Dental Medicine at



People, Events, and Milestones that Define the School's First Century

By Martha T. Moore

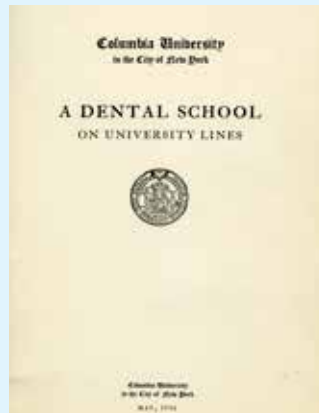
Highlights from the History of the College of Dental Medicine



1898

School's Guiding Light

William J. Gies, PhD, the future guiding light for Columbia's dental school, joins the Columbia University faculty at age 26. His research on the causes of dental caries leads him to meet leading dental practitioners in New York, who together will found a dental school at Columbia.



1916

Founding Document

A group of prominent New York dentists, physicians, and scientists submits a proposal to establish a dental school. The proposal, titled "A Dental School on University Lines," sets forth the enduring principles that general health and oral health are closely related and that the school of dentistry should have close ties with the medical school.



1917

Dental School Established

Columbia University Trustees establish the Columbia University Dental School retroactively to Sept. 17, 1916. The school is co-located with the College of Physicians and Surgeons on 59th Street. Two students enroll. Later that year the New York Post-graduate School of Dentistry and the New York School of Dental Hygiene are merged into Columbia's dental school.



1919

Journal of Dental Research

William J. Gies, PhD, establishes the Journal of Dental Research, which enhances the research mission of dental schools across the nation.

Thank Joseph Schroff and Sidney Kramer for signing up. The two men who enrolled as the first dental students at Columbia University in 1916 entered a fledgling program that would take nearly a decade to reach critical mass. Yet its essential philosophy—to be a dental school within the structure of a university—was already formally established. Like today’s 80 students in the class of 2020, the earliest dental students studied alongside medical students for their first classes. Unlike today, they had to trek from those basic science classes on West 59th Street to their clinical studies on East 34th Street, with a stop along the way to grab lunch at Horn & Hardart.

Thousands of students have graduated with Columbia dental degrees since Schroff and Kramer matriculated 100 years ago, and thousands of individual moments and decisions—by students, by faculty, in patient care, in the research lab, in the dean’s office—now make up the history of Columbia’s dental school. The College of Dental Medicine’s story is one of remarkable continuity: a commitment to educating dental students, to research, and to serving the community. To recognize the centennial anniversary of the College of Dental Medicine, the school’s magazine revisits—with the help of a new book authored by dean emeritus Allan J. Formicola—some of the critical moments, circumstances, individuals, and decisions that shaped the school and its students.

Alfred Owre: Prescient Yet Out of Step

When Alfred Owre arrived in 1927 to become Columbia’s dental school dean, he was an admired dentist and physician and a medical educator who had worked with William J. Gies on the landmark report that set the standards for training dentists within the broader context of medicine.

Six years later—having feuded with Gies, infuriated much of the dental profession, and alienated the Columbia faculty—Dr. Owre was forced out of his job.

Dr. Owre’s ideas on dental education and the structure of the dental profession are as relevant now as they were then—and no less controversial. The fight over his proposals for the dental school embodied the tensions inherent in viewing dentistry as an integral part of medicine and dental practitioners as independent professionals.

Born in Norway, Dr. Owre led the University of Minnesota’s dental school for more than 20 years before coming to Columbia. Tall and thin, an aesthete and passionate collector of cloisonné, over the course of his life Dr. Owre



1922

First DDS Degree

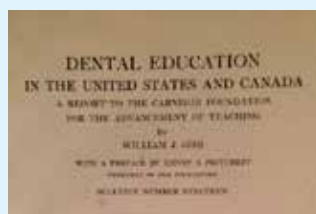
Joseph Schroff becomes the first recipient of a Columbia DDS degree. He also earns an MD degree from the College of Physicians and Surgeons. He goes on to serve on the dental school faculty for many years.



1923

School Merges with College of Dental and Oral Surgery of New York

The Columbia University Dental School changes its name to the School of Dental and Oral Surgery—SDOS—when it merges with the College of Dental and Oral Surgery of New York, established in 1892. The two buildings the college occupies on East 34th and 35th streets become Columbia University property. Students take basic science classes in the morning on 59th Street, then walk down to 34th and 35th streets for dental technique classes.



1926

William J. Gies Publishes Landmark Report

“Dental Education in the United States and Canada” is published by the Carnegie Foundation for the Advancement of Teaching. It contains 250 pages of text and more than 400 pages of appendices, including descriptions and evaluations of existing dental schools, each of which Dr. Gies visited during five years of research. He uses the Columbia school as the model for the future of all dental schools. “Dental Education in the United States and Canada” remains a seminal piece of research within dentistry.



1927

Alfred Owre Becomes Dean

Dr. Owre is recruited from the University of Minnesota. He brings 17 faculty members from Minnesota to join him at Columbia. Dr. Owre’s vision of rigorous education fits in well with the School of Dental and Oral Surgery, but many of his ideas regarding the structure of dentistry as a profession are considered controversial. Resistance to his ideas grows, leading to a leave of absence in 1933.

hiked thousands of miles, walking stick in hand. He stopped only for 10 minutes in each hour of walking, to rest and snack on the dark chocolate he carried, along with two toothbrushes and a pistol, in his knapsack.

His appointment as dean came shortly after the dental school had taken a leap forward. By 1920, the School of Dentistry of Columbia University, as it was then named, had absorbed two small start-up dental schools but still had only 20 students. A 1923 merger with the much-larger College of Dental and Oral Surgery allowed the Columbia program to reach critical mass. The merged school was renamed the School of Dental and Oral Surgery.

Dr. Owre's first task was to move the dental school from its mid-town location—in buildings that had been owned by the College of Dental and Oral Surgery—to the new Columbia-Presbyterian Medical Center in Washington Heights. The dental school and its 156 students moved into three floors in the Vanderbilt Clinic building, where it remains today. In 1929, Dr. Owre received an honorary doctorate from the university, one of the few dentists ever to be so honored. In 1930, he won a grant, worth nearly \$1.5 million in today's dollars, to study the causes of dental decay.

But then Dr. Owre opened the dental school's new clinic in the Vanderbilt building on 168th Street. He said the clinic would serve middle-class patients unable to afford quality dental care. In the midst of the Depression, practicing dentists did not appreciate the

competition—or the implication that patients were being forced to choose between unaffordably high fees or poor care.

Dr. Owre also proposed that routine dental work be performed by technicians under the supervision of a dentist-physician acting largely as a stomatologist. This, Dr. Owre said, would make dental care more widely available and affordable at a time when there were too few dentists for the population.

Only too late did he add that this should be a gradual change in what he called the “medico-dental profession,” not a wholesale sacking of currently practicing dentists and dental students. Just two years into his appointment, wrote his biographer Netta Wilson, “the dentists of New York were coming to regard him as something of a fanatic.”

It didn't help that Dr. Owre fired right back at his critics, calling members of one professional group “tradesmen and hucksters” and those who opposed him “the ignorant majority.” In the Red-fearing 1930s, he was an admirer of socialized medicine



Alfred Owre

Highlights from the History of the College of Dental Medicine



1928

School Moves to 168th Street

SDOS moves into the top three floors of the Vanderbilt Clinic building on West 168th Street, where the College of Physicians and Surgeons and the Presbyterian Hospital also move to form a historic academic medical center.



1934

Willard Rappleye Becomes Dean

Dr. Rappleye, dean of the College of Physicians and Surgeons, takes on the additional role of dean of the dental school, serving as dean of both schools for the next 25 years. Dr. Rappleye appoints Dr. Arthur T. Rowe, the head of prosthetics, as associate dean to carry out day-to-day operations. He later appoints Houghton Holiday, Bion East, Maurice Hickey, and Gilbert Smith (who later becomes dean) as associate deans.



1935

2 Faculty Members Murdered

Victor Koussow, a quarrelsome school laboratory technician, fatally shoots Associate Dean Arthur Rowe and Dr. Paul Wiberg and injures one other faculty member. He commits suicide as police arrive to investigate.



1945

School Formally Merges Into the Faculty of Medicine

The school becomes part of Columbia's Faculty of Medicine, which leads to a controversy with the Council on Dental Education, the accrediting agency.

in general and the Soviet system in particular. When he died in 1935, two years after leaving his post under pressure, the dental school faculty memorialized his “prophetic attitude,” politely adding, “He walked ahead of his time, and therefore not always in step with his contemporaries.”

Has the College of Dental Medicine, as it is now named, caught up with its controversial dean? Columbia’s dental faculty practice, a modern version of Dr. Owre’s clinic, was inaugurated in the 1980s and expanded with new facilities in 2008. Dental therapists, similar to Dr. Owre’s technicians, are now allowed to practice in Maine, Minnesota, Vermont, and on tribal lands in Alaska. The innovation continues to be controversial and is opposed by the American Dental Association.

Dr. Owre would find the argument familiar. “He was prescient,” says former dean Ira Lamster, DDS, also a strong believer in integrating dentistry and medicine. “But they ran him out of town.”

Combined Medical and Dental Faculties

In 1945 Willard Rappleye, dean of the medical and dental schools, merged the dental faculty into the medical school. The move cost the dental school its accreditation from the American Dental Association and at least three faculty members, who resigned in protest.

Ironically, it was Alfred Owre’s forced departure that had brought the medical and dental schools closer together. Instead

of replacing Dr. Owre, Columbia President Nicholas Murray Butler in 1934 simply gave Dr. Rappleye the additional title of dean of the School of Dental and Oral Surgery, with Dr. Arthur Rowe serving as associate dean for the dental school.

The subsequent merger of the two faculties set off a storm of objection from dental school alumni and split the faculty: Half voted for the merger, half against. The school’s loss of accreditation cost the graduates too: Some states refused to license Columbia graduates because their degrees were not from an accredited school. Faculty worried that Dr. Rappleye would favor the medical school over the dental school in financial matters and they noted that the dental school no longer controlled its own faculty appointment process.

The ADA felt a dental school should have a full-time dean. Columbia did not. “We aimed to train better dentists than before,” Dr. Rappleye said in 1945, when the state dental society asked the New York Regents to look into the merger of the two schools.

The ADA relented and reaccredited the dental school in 1951. Only after Dr. Rappleye’s retirement in 1958 did the School of Dental and Oral Surgery regain its independence, when university President Grayson Kirk elevated Gilbert Smith from associate dean to dean.

But the belief that dentistry and medicine are closely interrelated remains. Today, the very name of the dental school reflects it: In 2006, Dr. Lamster proposed the School of Dental and Oral Surgery become the College of Dental Medicine. “The old name



1947

First Postdoctoral Candidates Graduate

SDOS issues postdoctoral certificates in four specialty areas: oral surgery, general dentistry, periodontics (one of the first programs in the United States), and orthodontics, a program that dates back to 1917.



1950

Pedodontics Postdoctoral Specialty Program Established

Now called pediatric dentistry, the postdoctoral pedodontics program is established by Ewing Cleveland McBeath, DDS, MD. It is one of the earliest programs of its kind in the world.



1959

SDOS Separates from the Faculty of Medicine

Columbia University approves a separate faculty, the Faculty of Dental and Oral Surgery. The associate dean’s position under the former arrangement is restored to dean. Gilbert Smith becomes dean of SDOS.



1968

Melvin Moss Becomes Dean

A professor in the P&S anatomy department, Dr. Moss recruits new full-time faculty and strengthens the research mission of the school.

was cute but sort of irrelevant,” Dr. Lamster says. The new name “reflected who and what we were. Dentists had to function in an inter-professional world.”

State Budget Crisis Transforms the Student Body

By the end of the 1980s, Columbia was very much a local school. To receive per-student funding from the state, the dental school had to enroll more than 70 percent of its students from within New York. First- and second-year students were worth \$1,500 each; upperclassmen \$2,500. State funds also subsidized the school’s dental clinic.

Enter Gov. Mario Cuomo and a multiyear state budget crisis. In a series of budget cuts, “capitation” funds and the dental clinic subsidies were slashed. Nearly 25 percent of the dental school’s revenue vanished. The dental school had to make painful cuts, including the layoff of part-time faculty members, and add evening and weekend hours to the teaching clinic to increase revenue.

To be sure, financial challenges have been more common than not in the school’s history, as any administrator will relate. “Every year, every month, every week,” says Dr. Lamster. In 1964, the ADA put the school’s accreditation on provisional status, which the New York Times, in a front-page story, indicated was due to inadequate financial support from the university. Columbia President Grayson Kirk admitted as much but said the university had no money to improve the dental school’s facilities.

But the state aid cuts of the early 1990s were different; they changed the makeup of the student body. Without a financial incentive to enroll mostly New York students, the dental school began to recruit nationwide. By 2006, 75 percent of the school’s dental students came from outside New York. The larger applicant pool has led to an increase in selectivity, resulting in students with higher test scores.

“It did make us stronger,” says Allan Formicola, DDS, dean emeritus, who led the dental school through the years of slashed public funding.

Between 1986 and 1993, seven private universities shut down their dental schools, in part due to the loss of state and federal aid. Columbia’s near-death experience also increased the university’s determination to make the dental school fiscally sound, Dr. Formicola says. “It made everybody realize: They wanted the dental school.”

Into the Neighborhoods: A Community Dental Program

Too many kids at I.S. 143 had toothaches. They sat outside principal Phyllis Williams’ office, in too much pain to sit in class and learn. And Washington Heights had few, if any, dental services for them.

That’s what Ms. Williams wrote to Dr. Formicola shortly after he became dean of the School of Dental and Oral Surgery in 1978. “It was one of those transformative letters,” Dr. Formicola says.

Highlights from the History of the College of Dental Medicine



1973

Edward Zegarelli Becomes Dean

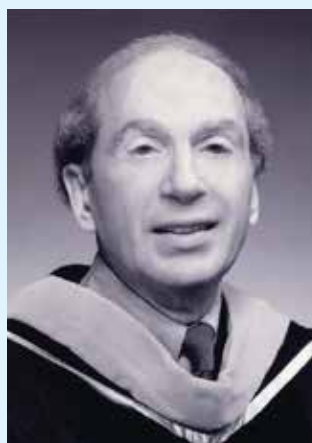
Dr. Zegarelli, an eminent oral pathologist and 1941 SDOS graduate, serves as dean from 1973 until he retires in 1978. By the time he retires, he will have spent his entire professional career on the faculty of SDOS.



1977

Vanderbilt Clinic Renovated

SDOS facilities on Vanderbilt Clinic floors 7, 8, and 9 undergo a total renovation with modern operatories and new equipment.



1978

Allan J. Formicola Becomes Dean

Dr. Formicola is the first dean in 50 years to be appointed from outside the faculty. He previously served as acting dean at the New Jersey Dental School and on the faculties of the University of Alabama and Georgetown University. He serves as dean of SDOS for 23 years.



1982

Dental Hygiene Program Closes

As community colleges across the country establish two-year dental hygiene programs, enrollment of students in university programs drops precipitously. Columbia decides to close its program.



JENNY ARMSTRONG '18

His reaction: “Of course we’ve got to do something. We needed not to lose sight of the fact that we were part of the community.”

The dental school’s response was a turning point: the beginning of community-oriented programs that have led CDM and its students to provide dental care for underserved children and elderly patients both in its neighborhood and overseas.

“If you want your students to understand the needs of the underserved, you have to get them out there,” Dr. Formicola says.

Community DentCare, an expansion of the school’s teaching clinic, was created to get dental students and dentistry into the community. In 1996, the first Community DentCare clinic opened in an 8-by-10-foot room at Principal Williams’ middle school.

The program now has six in-school clinics and is on its second mobile van, dedicated in 2009 by Alex Rodriguez, the Yankees slugger who was born in Washington Heights. Mr. Rodriguez provided funds for the new van from his foundation.

The idea of bringing dental care to children by putting clinics in schools can be traced to early in the school’s history when Frank Van Woert, chairman of the dental school from 1923 to 1926, tried to do the same thing. “He made a valiant fight for this project, and its lack of progress is not an indication of the time and energy he put into it,” the 1928 Columbia Dentor yearbook said in describing Dr. Van Woert.

Launching DentCare required no less “dogged determination,” Dr. Formicola says. “Where do you park a 36-foot van in Manhattan? And where do you get gas for it?”

The dental school already had a history of focusing on underserved patients. As early as 1951, the school established a post-doctoral program in care of those who were then referred to as “handicapped.” A program to care for patients with intellectual and physical disabilities began in 1974.

But Community DentCare took dental care to patients, not the reverse. And it led to further efforts: In 2004, the dental college launched ElderSmile, a prevention and treatment program with two community clinics, further expanding opportunities for dental students to work outside the campus.



1988

New Residency Program at Harlem Hospital

The Harlem Hospital-SDOS Special Postdoctoral Residency Program is established to train underrepresented minority residents in dental specialties, and 23 residents from Harlem Hospital complete specialty programs in such fields as periodontics, endodontics, orthodontics, and pediatric dentistry. Graduates become faculty members at Columbia, staff at Harlem Hospital, and practitioners in their specialty fields.



1993

Graduate Publishes Best-Selling Book, “Having Our Say”

Elizabeth (Bessie) Delany, a 1923 graduate, publishes a book of life stories with her sister, Sarah (Sadie) Delany, a graduate of Teachers College. The book recounts stories from the lives of these two extraordinary African-American women who grew up in the post-Reconstruction South and lived in New York City during the Harlem Renaissance. The book includes Dr. Delany’s stories of breaking barriers to become a dentist.



1995

Community DentCare

SDOS establishes the Community DentCare network to provide care in public schools and Head Start centers. A grant of \$1 million from the W.K. Kellogg Foundation supports the effort.



2000

SDOS Leads \$26 Million Project

SDOS is selected by the Robert Wood Johnson Foundation as the national program office for the “Pipeline, Profession & Practice: Community-Based Dental Education” demonstration project, the largest foundation initiative in dentistry ever funded. The W.K. Kellogg Foundation and the California Endowment also provide funds for the project. The 10-year project funds 23 dental schools to implement programs for students to study and treat patients in community clinics and encourages schools to increase underrepresented minority student applications and enrollment.

“DentCare focused on our commitment to the underserved and vulnerable populations,” says Dr. Lamster, who was dean when ElderSmile launched. “We built on it.”

That in turn has led to the realization that the university’s mission is now a global one. For the past decade, international programs have brought new perspectives to dental students and faculty. In 2005, the dental school signed a research and education partnership with Osaka Dental University in Japan, the first of at least 10 agreements that have enabled Columbia students and faculty to teach, study, and observe abroad, while welcoming their international counterparts to New York. Columbia signed an agreement last summer with the Francisco Marroquín University School of Dentistry in Guatemala to facilitate exchanges between the two schools. In 2017, CDM students will travel to Guatemala City to conduct an oral health needs assessment in the community in advance of future service learning there. Another recent agreement, announced in April 2016, links the College of Dental Medicine with the University of Nairobi on a project to improve the oral health of children with HIV.

The dental school’s global health externship program has long partnered with nongovernmental organizations to create opportunities for students to work on dental care missions abroad with a substantial percentage of the student body traveling abroad, but the school is now working to transform its model of global service learning, says Dean Christian S. Stohler, DMD, DrMedDent.

“We are moving away from the mission model, where students offer one-time treatments which have minimal long-term impact. Our new programs start with needs assessment, build local capacity, and participate in inter-professional care as well as follow-up treatment in partnership with other schools, such as nursing, social work, public health, and many more. This is the type of work that will truly strengthen global oral health, and it gives our students a true service learning experience.”

Research Goes 3-D

It is a humming \$300,000 machine that Jeremy Mao, DDS, PhD, believes will soon lead to the regrowth of teeth, knee cartilage, even internal organs.

Dr. Mao, who came to the College of Dental Medicine in 2007, is using a 3-D printer to create an artificial meniscus that, once implanted in a knee, will stimulate the regeneration of cartilage using the patient’s own stem cells. Dr. Mao’s Center for Craniofacial Regeneration is a recent and prominent example of a research mission that has been part of the dental school since its founding, despite the historical challenges of space and budget constraints. Dr. Mao’s work is an example of the school’s growing focus on research since the arrival of Dr. Stohler.

Dr. Mao’s knee implant, honeycombed with channels and seeded with protein growth factors, acts as a scaffold for carti-

Highlights from the History of the College of Dental Medicine



2001

Ira Lamster Becomes Dean

Formerly vice dean of SDOS and director of the Division of Periodontics, Dr. Lamster serves as dean from 2001 to 2013. He proposes to change the name of the school from the School of Dental and Oral Surgery to the College of Dental Medicine to reflect changes in the way dentistry is practiced.



2006

SDOS Becomes the College of Dental Medicine

Columbia’s Board of Trustees approves the school’s name change to the College of Dental Medicine. The new name better reflects the school’s comprehensive biomedical approach in its missions.



2009

Dental Research Complex Constructed

A major new research complex is constructed on the 12th floor of the Vanderbilt Clinic, permitting the dental school to recruit new research faculty and expand its research program.



2010

DDS-MA Program with Teachers College

Roseanna Graham, DDS, becomes the first graduate of this dual degree program. She goes on to earn a PhD in science education, also a first, and joins the College of Dental Medicine faculty.



Jeremy Mao

JÖRG MEYER

lage regrowth. In 2015, Dr. Mao succeeded in regenerating cartilage in sheep and is working toward human trials.

“When we first got the printer, I thought, ‘Gee, this is going to be really powerful,’” Dr. Mao says. “Now, more and more people are seeing the utility of 3-D printing and there’s tremendous excitement for its use in medicine.” Dr. Mao has used a similar implanted scaffold to regenerate teeth in animal studies and to develop a replacement temporomandibular joint.

Dental research at Columbia actually predates the founding of the dental school. William J. Gies, the medical school biochemistry professor and early proponent of a Columbia dental school, began studying saliva and caries as early as 1910. He helped found the Journal of Dental Research in 1919 and was its first editor. Research by dental students also began early: The

William Jarvie Society for Dental Research was formed in 1920 (its first president, perhaps not surprisingly, was Columbia’s first dental student, Joseph Schroff) and continues today.

Throughout much of the dental school’s early history, research focused on tooth structure, decay, and restoration. Beginning in the late 1960s, Irwin Mandel, DDS, reenergized research efforts, centered on the salivary chemistry laboratory he established to study the relation of saliva to oral and systemic disease. Without the persistence of Dr. Mandel, the first winner of the American Dental Association’s Gold Medal Award for Excellence in Dental Research, “there would be no significant clinical research” at Columbia, microbiologist and dental faculty colleague Solon A. Ellison, DDS, PhD, now professor emeritus of dentistry, wrote in 1992.

More recently, the college’s research has cut an interdisciplinary swathe: the relationship of oral health to overall health. Panos Papapanou, DDS, PhD, and Evanthia Lalla, DDS, have investigated the link between periodontitis, vascular disease, and pregnancy outcomes; Dr. Lamster and Dr. Lalla have investigated the use of oral disease for early diabetes identification. Burton Edelstein, DDS, has focused on social and behavioral determinants of oral health. He pursued the use of behavioral risk management tools for children’s oral health, all in keeping with the dental school’s historic view of oral health as a part of overall well-being. Or, as Dr. Mao puts it: “Dentistry is much more than just the teeth.”



2013

Christian Stohler Becomes Dean

Dr. Stohler comes from the University of Maryland School of Dentistry, where he served as dean for 10 years. Dean Stohler launches his tenure by fostering dialogue to collaboratively chart the course toward advances in the curriculum, research, and international opportunities, among others. He oversees the expansion of the dental school’s clinic space onto the Vanderbilt Clinic’s fifth floor, increasing clinic space by 25 percent.



2014

Gies Award

The College of Dental Medicine is awarded an American Dental Education Association Gies Foundation Award for its Community DentCare program.



2014

School Receives HEED Award

The College of Dental Medicine is awarded the first of its three consecutive annual Higher Education Excellence in Diversity Awards for outstanding commitment to diversity and inclusion. It is the first dental school in the nation to win such an award. Dr. Dennis Mitchell established the Office of Diversity Affairs at the College of Dental Medicine, and he is also vice provost for faculty diversity and inclusion for Columbia University.



2016-17

School Turns 100

The College of Dental Medicine celebrates its first 100 years, as detailed in a comprehensive history book written by Allan J. Formicola, dean emeritus. The college launches new, long-term initiatives, spurred in part by a probing self-study in advance of CODA accreditation. Among the initiatives is the revamping of the curriculum to keep pace with—and lead—research, teaching, and practice of oral health care in the 21st century.



Elizabeth Fadoju'17:

Inspired by Great Educators, She Pursues Dual Dentistry, Education Degrees

Elizabeth Fadoju'17 knows exactly what a difference one individual can make in sparking and encouraging a young person's career interests.

In Ms. Fadoju's case, it started with her mom. Mrs. Fadoju began her own career as a midwife in Lagos, Nigeria, before eventually moving to Baltimore, Md., with 4-year-old Elizabeth and the rest of their family. There, Mrs. Fadoju earned her nursing degree and encouraged her daughter to become a physician.

Ms. Fadoju grew up to earn a scholarship to the University of Maryland at College Park, but it was not easy meeting the scholarship's minimum GPA requirement while pursuing a pre-med degree. In her first year, she experienced moments of deep discouragement.

"As a freshman, I had to take organic chemistry, the big, bad wolf!" she says. Her GPA took a hit, and she started second-guessing her academic choices. But Mrs. Fadoju, as well as a professor at Maryland, encouraged Ms. Fadoju to keep going.

That same year, Ms. Fadoju attended the Summer Medical and Dental Education Program at Columbia, the six-week residential program for first- and second-year college students interested in medicine and dentistry. There, she discovered the innovations taking place in dental medicine at Columbia. She was awestruck by experiences like the lectures Candice Zemnick, DMD, associate professor of dental medicine, gave on the use of maxillofacial prosthetics to fabricate new eyes and noses for people who suffer traumas from cancer.

"I was overwhelmed with the possibilities that the field offered, by the impact I might make as a health provider, and the opportunities that an education from Columbia would provide," says Ms. Fadoju.

She also met Dennis Mitchell, DDS, associate professor of dental medicine and senior associate dean for diversity (and now also Columbia vice provost for faculty diversity). Dr. Mitchell took notice of Ms. Fadoju's growing curiosity in dental medicine and encouraged her to persevere in her undergraduate studies.

She finished at Maryland, earning a BS degree in general biology with a minor in Spanish language and culture. She credits her summer at Columbia for her decision to pursue dental medicine as a career.



"The day I found out I got accepted into the DDS program at Columbia was, as corny as it sounds, truly a dream come true after many ups and downs in undergrad," Ms. Fadoju says. "Dental school is dental school, but the people at Columbia make up a diverse amalgam (dentistry pun intended) of unique, genuine, and beyond-talented individuals."

Now well into her studies at the College of Dental Medicine, Ms. Fadoju is more focused than ever on pursuing her career. A U.S. Navy Health Professions Scholar, she also is pursuing a dual degree at Teachers College.

"My life might have turned out a lot differently had it not been for educators, so I'm incorporating that degree into my studies and ideas for work as a professional," Ms. Fadoju says. "It's my own affirmation of a key principle at Teachers College: Great educators push students to believe that success is both possible and expected."

This was adapted from a profile originally published on the Columbia Registrar's Office website.

John Yoo'18: Searching for the Right Career Led Him to Dentistry

When it came to choosing a career path, John Yoo always had music in the back of his mind. He began singing competitively when he was 5 years old. But John felt that a career in the arts lacked the one thing that was most important to him: making a direct, substantial difference in people's lives.

With his mother as his coach, Mr. Yoo sang throughout his childhood and began auditioning for choral groups in middle school. "I practiced really hard, constantly recording myself, picking out the smallest flaws, improving my technique and my expressiveness, and repeating," he says. His painstaking efforts paid off, and in his junior year in high school, he placed second in New Jersey, qualified for two All-Easterns competitions, and received the New Jersey Governor's Award in Music.

As a freshman at Duke University, Mr. Yoo sang with Duke's premier all-male a cappella group and a Korean band he formed with his friends. Academically, he focused on the pre-med track while conducting research on the side.

Still ambivalent about his overall direction by senior year, Mr. Yoo took a semester off to pursue clinical research with Duke radiologist Charles Kim.

It was Dr. Kim who challenged him to find his true passion. "He asked me a few critical questions, like, 'Do you know for certain that you want to go into medicine? Have you considered your other interests?'" Mr. Yoo recalls. "I realized I didn't have a great answer. And Dr. Kim gave me time off to explore."

Mr. Yoo tried adolescent music therapy at a psychiatric hospital, shadowed in the pediatric oncology ward, and spent more than one all-nighter in his dorm room recording K-pop love ballads. "One afternoon, I shadowed my first dentist and my mind was blown," he says. "It was the first time I saw the endless possibilities of community service through dentistry."

For Mr. Yoo, dentistry felt like the profession in which all of his interests and talents intersected. "I loved the idea of seeing dentistry as the artistic medium through which I could help people—many, many people."

He had always dreamed of living in New York City, but the community feeling at the College of Dental Medicine is what he loves best. "We are all one big family here, from underclassmen to upperclassmen to faculty to alumni. It's so evident in how we treat and look out for one another."

He has been able to pursue his passion for research, working with Shantanu Lal, DDS, associate professor of dental medicine, to investigate the latest Bluetooth-connected toothbrush that provides data on a user's brushing habits.

"This field is constantly moving forward with new technology and evidence-based dentistry," he says. "Being involved in research is like being part of the future of dentistry."

Now in his third year at the College of Dental Medicine, Mr. Yoo has not looked back and, despite a busy schedule, has not given up his music. He still sings with his old band, Seoul Singers, and he recently formed a new boy band with two second-year students. "Check out the K-Town Boyz on our world tour of NYC!"

“””
Being involved in research is like being part of the future of dentistry.

— John Yoo'18



JORG MEYER

Stephanie Bernard'19:

Time in Jamaica Launched Her Dream to Become a Dentist

When Stephanie Bernard left her South Florida home as a teenager to live in Jamaica for three years, she was not expecting to return enthusiastic about dentistry. But that's exactly what happened.

Ms. Bernard was entering eighth grade when her parents offered her and her two younger siblings the opportunity for a different life experience. They could move in with their grandparents in Black River St. Elizabeth, a rural village in Jamaica.

Life in Jamaica was definitely different. "When you go there from a town like Coral Springs, where everyone is privileged, you

start to notice the differences in the clothes that people are wearing, missing front teeth, things like that," she says. "You start to notice it even as a young child."

One of the most noticeable differences was the lack of access people had to health care. "And dentistry tends to be last on the list prioritywise," she adds.

Her grandparents were very involved in their local church and it was there that she met a dentist who provided oral care for their community. In her conversations with him, Ms. Bernard realized just how much opportunity dentistry offered to help the underserved.

"If you don't have a nice smile, that's the first thing that someone will notice about you," she says. "You go for a job interview, school, whatever it is, it's the first thing that people will see. And if you don't have a great smile it can hinder you so much."

When she returned to the United States, Ms. Bernard finished high school and enrolled in Florida Atlantic University in Boca Raton, where she was one of just a few pre-dental students. "I had a great mentor, a local dentist, and he told me to just shoot for the stars.

Columbia's possible. Just apply and see what happens," she says.

Ms. Bernard was accepted to seven dental schools. "I'd call my mom after every interview," she says. "After my Columbia interview, she said, 'Hold on! Go back! I can't even understand what you're saying!' And that's when I knew that this is where I wanted to be."

Now in her second year at the College of Dental Medicine, Ms. Bernard is already heavily involved with community service. She volunteers in the free clinic in Harlem twice a month, tutors local middle school students, and visits schools to give oral health information to elementary students.

Eventually, she plans to give back to her Jamaican community. "They have people who come and give back and the community is so grateful and so receptive," she says. "There is so much opportunity to help with dentistry."



JÖRG MEYER

“““

If you don't have a nice smile, that's the first thing that someone will notice about you.

— Stephanie Bernard'19

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Alumni News & Notes

ALUMNI OF THE COLLEGE
OF DENTAL MEDICINE

Bernard Yanowitz '49, former president of the D.C. Dental Society, celebrated his 90th birthday in February with friends and family in his hometown of Deerfield Beach, Fla.

Lawrence Daum '53 reports that his latest accomplishment is "recently celebrating my 89th birthday with almost all my teeth." His varied career includes opening a one-chair practice, teaching in the diagnosis department at the dental school, and founding the Dental Associates of Connecticut, the Bridgeport study group, and the American Academy of Dental Group Practice. He also had leading roles in musicals



staged in Greater Danbury and fondly remembers luring the cast of "The Happiest Millionaire" to Washington Heights for a dental school fundraiser.

Earle Cote '58 Ortho was nominated in January by several colleagues for the lifetime achievement award at Georgetown University, where he received his DDS in 1954. A talented leader, teacher, and organizer, Dr. Cote's career included running a thriving practice in Greenwich, Conn., being on the clinical staff at Greenwich Hospital and

New Jersey dental school, and lecturing in Europe, Africa, and throughout the United States. He served with distinction as president of numerous organizations, including the Greenwich Dental Society, the Northeastern Society of Orthodontists, and the American Association of Orthodontists. He also was a founder of the College of Diplomates of the American Board of Orthodontics.

Howard Blum '60 served on the CDM faculty for more than a decade in the endodontics division under the direction of Irving Naidorf and Joseph Leavitt. A board-certified endodontist, he practiced on Long Island and lectured internationally. He currently works at the VA Hospital in West Palm Beach, Fla., and at Mount Sinai Hospital in Queens, where he is



Howard Blum '60 with Natalie Sukiasian '15

responsible for the endodontics residency training program, which often brings him in contact with recent Columbia dental graduates.

Eugene LaSota '61 was presented with the CDM Distinguished Alumni Award on Class Reunion Day this year for dedicated service to the school.

George White, DDS, director of the Division of Prosthodontics, made the presentation. Dr. LaSota served as clinical professor in postdoctoral prosthodontics for 50 years and was an attending dentist at NewYork-Presbyterian Hospital, a member of the



Eugene LaSota '61 and George White

craniofacial team, and acting chief of maxillofacial prosthetics. An active alumnus, Dr. LaSota is a past president of the 1852 Donor Society and a reunion class representative. He also volunteers as a forensic dentist in the New York City Office of the Chief Medical Examiner and on the city's mass disaster team. He was a tour commander for the 9/11 dental identification team.

Susumu Uehara '63 Peds credits his Columbia training co-resident **Harold Diner '64** for stimulating his interest in working with the disabled. After graduating and returning to Japan, Dr. Uehara established a department of pediatric dentistry at Nihon University School of Dentistry before moving to the new Nihon University School of Dentistry at Matsudo to establish a department of special care dentistry. He then worked

at the Kawasaki University School of Medical Welfare and the Okayama University Medical Hospital Center of Special Needs Dentistry, helping a former student who was chief of the department. He founded and served as president of the Association of Dentistry



Susumu Uehara '63 Peds

for the Handicapped, now the Japanese Society for Disability and Oral Health, and was active in the International Association for the Disabled and Oral Health. In 2012, Dr. Uehara was granted a medal, "Order of The Sacred Treasure, Gold Rays with Neck Ribbon," from the government under the name of the Emperor for his dedication to teaching and global service.

Harold Sussman '64 exhibited his artwork, "Am Yisroal Chai" (translation: Israel Lives On), in the Columbia University Medical Center Fine Art Exhibition this year. Envisioned by him while collecting wild rock (weathered limestone) in the Judean Hills, the piece consists of a hand-made wooden frame decorated with crushed tiles enclosing an acrylic painting of Jerusalem motif, created by his wife, Jacqueline. Dr. Sussman

is an assistant clinical professor in the Division of Periodontics at CDM. He lectures widely at dental study clubs on periodontics and implantology and has patented implant guides. His latest project is writing a children's book.

John Donovan '67 is enjoying retirement in Connecticut with Loretta, his wife of 49 years. He stays busy playing guitar with the Brookfield Senior Singers and sailing on Candlewood Lake. Before retiring he was on the CDM faculty for 32 years (and was named Professor of the Year in 1999) and taught science courses at several colleges.

Robert Miner '67 retired in June from the Ridgewood, N.J., practice he started in 1970 after service as a captain in the Army Dental Corps. In a letter to his patients and associates he announced his intent to devote more time to family and make dents in his bucket list, referencing a phrase from Andrew Marvell's poem, "To

His Coy Mistress": "As much as I have enjoyed my chosen professional career since graduating from Columbia, 'behind my back I hear Time's winged chariot hurrying near'." Dr. Miner established and facilitates the Dental Ethics Program at CDM, where he has served as volunteer clinical professor in the Division of Prosthodontics since 1970.

Joel Friedman '68 is treasurer of the Oral Maxillofacial Surgery Political Action Committee and chairman of the Empire State Political Action Committee. He is adjunct associate clinical professor in the Section of Hospital Dentistry at CDM.

Olga A.C. Ibsen, RDH, BS '72, MS '75, received the American Dental Hygienists' Association Award for Excellence in Dental Hygiene (sponsored by Johnson & Johnson) at the ADHA annual session held in June in Pittsburgh. She was honored for her commitment and professionalism in the field of

ASSOCIATION OF DENTAL ALUMNI

All graduates of the College of Dental Medicine are automatically members of the Association of Dental Alumni. Led by an executive board, association members work closely with the Alumni Relations and Development Office to establish goals and programmatic priorities and to serve as a link between the school and its alumni. The board meets regularly to plan events and activities for alumni and students. For information on becoming involved, contact Melissa Welsh, Alumni Director, at 212-305-6881 or mmw7@columbia.edu.

Current officers of the association:

Michael Leifert, Ortho'04, president, mfl2002@cumc.columbia.edu
Michelle Mirsky '77, vice president, msm80@cumc.columbia.edu
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Abraham Chahine '09, secretary, aychahine@gmail.com
Julie Connolly '01, Perio'05, immediate past president, jac54@cumc.columbia.edu

dental hygiene and her dedication to improving the public's oral and overall health. Ms. Ibsen served as president of the CDM Association of Dental Alumni from 1994 to 1996.

Ron Spaulding '72, retired oral surgeon and member of the board of Ammonoosuc Community Health Services in New Hampshire, received the New Hampshire Community Service Award from Bi-State Primary Care Association at the Primary Care Confer-

ence in May. The award is presented to "individuals whose volunteer efforts have made a significant impact on venerable populations in Vermont and New Hampshire." In addition to donating dental equipment, Dr. Spaulding provided guidance on creating an in-house dental practice at Ammonoosuc Community Health Services to help address the dearth of oral health care services in the area. Dr. Spaulding was an adjunct assistant profes-

Farewell to Ronnie Myers

Ronnie Myers '79, Peds '80, left his position as vice dean for administrative affairs at CDM in June to become senior associate dean for academic and administrative affairs at the new Touro College of Dental Medicine at New York Medical College.

Dr. Myers' career at Columbia spanned nearly four decades, starting in 1982 as director of the general practice residency program at NewYork-Presbyterian Hospital (the only hospital residency program at that time). He was interim dean of the dental school from July 2012 to August 2013. His ties to Columbia are deep and

generations long: His father, Jesse Myers, received a DDS degree from Columbia in 1940. His son, Aaron, graduated with a DDS degree in 2012 and a certificate in pediatric dentistry in 2014 and is now on the faculty in the Division of Pediatric Dentistry. In addition to his administrative duties, Dr. Myers maintained an active private practice in general dentistry. At the farewell attended by friends, family, students, and colleagues, Dr. Myers was saluted by CDM Dean Christian Stohler: "At a time of significant change in our field, I am pleased that Dr. Myers



Ronnie Myers and Dean Christian Stohler

will continue to contribute his leadership and vision to our profession. But on our campus he will be missed as a valued colleague, mentor, and friend of those who worked or studied with him. I have personally appreciated his wise counsel."



sor in the Division of Oral and Maxillofacial Surgery at CDM from 2000 to 2011, traveling regularly from New Hampshire to volunteer as an instructor in the clinic.

Olivia Masry Blau '75 traveled to Montego Bay, Jamaica, in May as dental team director of the Tryall Fund 2016 Jamaica Dental Mission. "Our American and Jamaican dental team was made up of 22 people: two general dentists, one pediatric dentist, one oral surgeon, six hygienists, three dental assistants, two University of West Indies senior dental students, mission coordinators, and support staff. We treated 721 people, with almost 500 being school children and completed over 2,000 dental procedures. This was our fourth annual trip there. Since we are mainly seeing school children, we are setting the groundwork for life-



long good oral health and beautiful smiles. We would love to expand our program and would welcome more alums to join our team. Please contact me at Olivia.masry@briardent.com."



Thomas Connolly '77, Perio '80, assumed the vice presidency of the American College of Dentists at the group's annual meeting in October in Denver.

Lewis Gross '79 lectured on holistic dentistry at the World Dental Congress in Dalian, China, in Fall 2015, at the American Dental Congress in Philadelphia, and at CDM. He is director of the Tribeca Center for Holistic and Integrative Dentistry.

Margot Jaffe '80, Peds '84, Ortho '85 is vice president and **Steve Syrop '80** is secretary of the Society of Honorary Police Surgeons of the New York Police Department. They consult on treatment for service members or their immediate family members. Dr. Jaffe also was selected as the new CDM representative to the Alumni Trustee Nominating Committee. She succeeds Charles Solomon '58, director of the Division of Endodontics, who served two four-year terms. Dr. Jaffe's son, Keith Goldman, is a graduate of the orthodontics program.

Joanne Roos, RDH, BS '80 wrote a children's book, "Who Visits Me from A to Z. An Alphabetical Adventure to the Dentist." She presents dental health programs to more than 10,000 children a year in nursery and elementary

schools. The book is available in both English and Spanish.

Joseph Napoli '81 received the 2015 Excellence in Teaching Award from Christiana Care Health System's Department of Oral and Maxillofacial Surgery. He has served for 14 years on the faculty at Nemours Children's Clinic/Alfred I. Dupont Hospital for Children, working with OMFS residents. Dr. Napoli was the first graduate of the integrated DDS/MD New York-Presbyterian residency program. His brother, **Salvatore**, received his DDS from CDM in 1979, and their father, **Nicholas**, is also a CDM graduate, receiving his DDS degree in 1958 and certificate in orthodontics in 1963.

Alex Greenberg '83 was both editor and contributor of three chapters in the May 2015 edition of "Dental Implants: An Evolving Discipline" from the Oral and Maxillofacial Surgery Clinics of North America. His

chapters focused on cone beam computed tomography, digital technologies for treatment planning, and prosthodontics in postcancer reconstruction. Dr. Greenberg has been assistant clinical professor in the Division of Oral and Maxillofacial Surgery at CDM since 1987.

Gregg Lituchy '84 invited a group of dental students from Osaka Dental University who are participating in an academic exchange at CDM to join him at a game played by the New York Knicks (for whom he is team dentist). Dr. Lituchy accompanied CDM Dean Christian Stohler and a group of CDM faculty on an educational trip to Osaka in 2013.

Renee Joskow '85 DDS/MPH received the Jack D. Robertson Award for dedication, service, and commitment to the U.S. Public Health Service at a national meeting in May. Dr. Joskow is a captain in the USPHS Health Resources and Services Administration.

SHARE YOUR NEWS & STORIES

You are part of a unique and vibrant alumni community, so let your fellow graduates know about your accomplishments.

Send us:

- news of awards and achievements
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- stories about meeting your spouse/partner at dental school
- legacy of following in the footsteps of a family member/mentor who attended CDM
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Email stories, ideas, and photos to:

Melissa Welsh, Alumni Director, mmw7@columbia.edu
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Dentist, Surgeon, Doctor, Soldier

John C. "Jack" McCabe has seen parts of the United States and the world since receiving his DDS degree in 1985, training in oral and maxillofacial surgery at Columbia, and earning his MD degree from P&S in 1990. After an internship in general surgery at Columbia, he joined the College of Dental Medicine as assistant professor in the oral and maxillofacial surgery division.

He joined the U.S. Army Reserve in 1997 and was commissioned as a major in the Army's Dental Corps. He performed "clinical drills" two to three days a month at the Keller Army Hospital at the U.S. Military Academy in West Point, N.Y. "This has been a very interesting and enjoyable second and parallel career for me," he says.

In 2002, Jack and his family relocated to Omaha, where he chaired oral and maxillofacial surgery at Creighton University and continued in the Dental Corps. "In 2004 I was mobilized for 90 days at Evans Army Medical Center at Fort Carson, Colo. That was a period of intense combat engagement in Iraq and Afghanistan for the U.S. military. As one of two oral and maxillofacial surgeons stationed at Fort Carson, I provided reconstructive surgical care to soldiers with maxillofacial combat

injuries who were evacuated out of theater for treatment. Amazingly, wounded soldiers would be flown from the Middle East or Ramstein, Germany, to Colorado Springs, Colo., to be reunited with family and to have definitive surgical care. It was an extremely rewarding experience, and I was fortunate to work with several excellent military physicians and dentists."

The family returned to the Northeast in 2006, this time to a private practice in Connecticut. He was mobilized in 2014 to Kuwait, where he performed numerous surgeries.

Now a colonel in the Dental Corps, Jack has been deployed with the Army's 3rd Medical Command in Qatar since February, his third activation. Jack is chief of professional services for the 3rd Medical Command, the first Dental Corps officer to serve as command surgeon. "Usually the command surgeon position is held by a Medical Corps officer," he says. "It's been an extraordinary experience to serve in a deployed environment."

His 2016 assignment allowed him to be much more involved in the administrative side of military health care involving thousands of service members in many countries



Col. Jack McCabe in Kuwait

in the Middle East. The 3rd Medical Command oversees the Army's health care assets in 11 countries in the Middle East. He was the first Dental Corps officer to qualify and serve as an instructor in advanced trauma life support. He also has been appointed to represent the Army Reserve as the oral and maxillofacial surgery consultant to the Army's Surgeon General.

"As an Army Reservist, I have benefited from exceptional, advanced training in the treatment and reconstruction of maxillofacial trauma," he says. "The Army has provided me with training in advanced trauma life support, tactical combat casualty care, combat casualty care, mass casualty care, and other valuable education that I have been able to put to good use. It has been very fulfilling to be able to provide service members with needed health care that ranges from routine to mass casualty."

Ronald Salyk'88 retired after 25 years as dental director of Morris Heights Health Center, a community health center in the Bronx, and is now consulting at community health centers and teaching national dental board preparation review with Kaplan.

Fariba Kalantari'92 is president-elect of the LA Dental Society and the new chair for the Hollywood Chamber of Commerce, which she reports is "a full time job on top of my practice." She is thrilled that her cousin,

Maryam Zade, is in the CDM Class of 2020.

Angelo Ostuni'02, MD'08, Diplomate of the American Board of Oral & Maxillofacial Surgery, held a reception this spring to celebrate the opening of his new practice, Carnegie Oral & Maxillofacial Surgery. He has joined the CDM Alumni Association Executive Committee and is a member of the Admissions Committee.

Greg Miller'04 practices orthodontics with his wife, Helaine

Kan, at California offices in Novato and Pleasant Hill. He notes: "We have three kids aged 5 and under...somehow we're surviving!"

Jesse Teng'06 was featured as a guest columnist in the El Paso Times in June, discussing how



orthodontic advancements have improved treatment efficiency for patients. Dr. Teng became president of the Texas Association of Orthodontists in September.

Dale Rosenbach'12 Perio gave his 95th continuing education



course in May for the Victoria & District Dental Society in Victoria, British Columbia, Canada, speaking on atraumatic exodontia and sinus augmentation. He published his first peer-reviewed article, "The Single-State Implant Procedure: Science or Conve-

nience," in the March issue of Dentistry Today.

Claudia Cruz '14 DDS (Certificate in Dental Public Health), is an orthodontic resident. She published a guest editorial in the American Journal of Orthodontics and

Dentofacial Orthopedics with Dr. Burton Edelstein, chair of the Section of Population Oral Health, titled, "Linking Orthodontic Treatment and Caries Management of High Caries Risk Adolescents." As USA regent of the International

College of Dentists Colombia task force, Dr. Cruz went last April to the Foundation Pies Descalzos, led by the Colombian singer Shakira, to discuss creating a coalition to evaluate the oral health needs of underserved children in the area.

InMemoriam

George Coulter '54, DDS, died in his sleep May 15, 2016, at age 87. He was a dentist in Pawling, N.Y., for more than 42 years.

He attributed his passion for dentistry to the mentoring



he received in dental school from faculty member Dr. Edward Cain. As a tribute to CDM and Dr. Cain, Dr. Coulter established a scholarship fund with a \$250,000 bequest to support financially needy students.

Robert Tauber '62, DDS, died March 17, 2016. He served on the CDM faculty as assistant clinical professor of dentistry in the adult dentistry section, teaching predoctoral students in the senior clinic and teaching in the ethics program. He was retired from private practice.

In 2012, Dr. Tauber received the Ninth District Dental Association's highest award, the D. Austin Sniffen

Medal of Honor. He had served as president of the Ninth District and chairman of the New York State Dental Association Council on Ethics.

Dr. Tauber graduated from Columbia College before entering dental school. A dedicated dental alumnus, Dr. Tauber helped organize reunions for the Class of 1962 along with fellow faculty members and good friends Richard Lichtenhal, Mark Tenner, and Phil Terman. He was instrumental in arranging for the annual Alumni Association Mentor Reception for students, faculty, and alumni held at Butler Library in a meeting room named in honor of his father, Dr. Maurice Falcolm Tauber, internationally renowned library educator and professor at Columbia's former School of Library Science.



Robert Tauber advises a student at a mentor reception held in the Tauber Room at Butler Library

Dr. Tauber is survived by his wife, Dottie, daughters Sharon and Robin, and a brother, Frederick Tauber, a 1971 Columbia College graduate.

Margaret Walsh, MS'75, EdD, a dental hygiene educator, researcher, and author, died Jan. 23, 2016. Dr. Walsh, who received her EdD degree from the University of San Francisco, launched a master's program in dental hygiene at UCSF in 2010. She was a professor in the Department of Preventive and Restorative Dental Sciences at UCSF for more than 37 years. She was internationally recognized for her studies on smokeless tobacco use and cessation strategies. She collaborated on a textbook, "Dental Hygiene: Theory and Practice," now in its fourth edition. Dr. Walsh received the Esther Wilkins Dental Hygiene Lifetime Achievement Award in 2014.

Robert F. Wright, DDS, former professor of clinical dentistry and director of the prosthodontics division at CDM, died suddenly April 10, 2016, at his North Carolina home at age 60.

Dr. Wright chaired the Department of Prosthodontics

at the University of North Carolina School of Dentistry at Chapel Hill. Before joining UNC in 2013, he served on the Harvard dental school faculty since 2004.

He served on the Columbia faculty from 1987 to 2004, as program director for graduate prosthodontics, maxillofacial prosthetic residency, and the predoctoral curriculum.

OTHER DEATHS REPORTED:

Elsie Handelman Hyg'30
Regina O'Brien Hyg'37
Stanley Lane '41
Benjamin Levene '41
Melvin Berman '43
Elizabeth Yanarella Hyg'45
Robert Shapiro '46
Alfred Levin '47
Donald Disick '48
 (father of Evan Disick '02)
Eli Stern '48
Noel Wiener Ortho'50
Ross Waltzer Perio'51
Daniel Glass '52, Ortho'57
Benjamin Spector Ortho'52
Peter Notaro '55, Endo'57
Joseph Wirtenberg '56
Peter Mund '58
Benjamin W. Cabel IV Ortho'61
Sandofd Krotenberg '61
Quentin Lyle Ortho'62
Todd Beckerman '63
Harvey Fenster Ortho'64
Luke Pillis Ortho'66
Monroe Weinstein Perio'73

Class Reunion Day



Alumni, faculty, and students gathered in Bard Hall April 15 for a day of CE workshops, campus tours, alumni awards, faculty presentations, and reminiscence.

Classes of 1941, 1946, 1951, and 1956

Standing, from left: Louis Mandel'46 (class rep), Caterina Goodman, Vincent Della-Rocca Jr., and Saul Finer'51 (class rep). Seated: Jeanne Agate, Irving Kittay'41, Vincent Della-Rocca'46, Judith Finer, and Richard Feinstein'56.

Class of 1961

From left: Diane Stern, Arthur Ashman, Abe Rosenthal, Eugene LaSota (class rep), Robert Wein, and Ellie LaSota

Class of 1976

From left: Joseph Ruisi (class rep), Thomas McClelland, John Fox, Roy Stevens, Jeffrey Blumenthal, Steve Klein, and William Reicker

Class of 1981

Standing, from left: Robert Bird, Charles Azzaretti, Abbe Orlansky, and Daniel Siegel
Seated: Joe Napoli, Susan Karabin (class rep), Daniel Weinstein, and Diane Pappas

Class of 1991

From left: Mohammad Sadeghi, Nai Yan Lam, Mariliza LaCap (class rep) and Darren Tong (class rep)

Class of 1996

Standing, from left: Zhiling Mei, Diane Wong, Arman Rokhsar, Jonathan Shenkin, Bernard Rupnarain, John Milza, Sachin Jamdar, Tom Mulvey, and Robert Martino (class rep). Seated: Rohini Fernandes, Sunil Wadhwa, Genevieve Fernandes (class rep), My-Khanh Phan, Hetal Patel, Kathy Taylor, and Shruti Shenava

Class of 2001

Standing, from left: Justin Boyd, Julie Connolly (class rep), Raymon Grewal, Yong-Han Koo, and Stella Tan. Seated: Jenny Huang Lee, Ned Boyd, Edward Goldin, Maia Palagi, and Farisa Mulvey

Class of 2006

Standing, from left: Marshall Chey, Mimi Park, Tina Fernandez (class rep), Ruba Rizqalla (class rep), Meng-Chieh Lee, Michelle Mirksy (Operative faculty member), Karan Estwick, Becky Gong, Cynthia Tsen, and David Koslovsky (class rep). Seated: David Alfi (class rep), Jesse Teng, George Pliakis, Rebecca Liu, and Rania Elbaz

Class of 2011

From left: Hai Do, Gloria Lee, Jackie Haker, Aimee Leibowitz, and Eric Frank



COLUMBIA UNIVERSITY
COLLEGE OF DENTAL MEDICINE
REUNION

FRIDAY, APRIL 28, 2017

All alumni are invited to the reunion, and special recognition will be given to classes ending in '2 and '7.

*For further details or to help organize participation by your class,
contact Melissa Welsh, mmw7@columbia.edu*



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College of Dental Medicine



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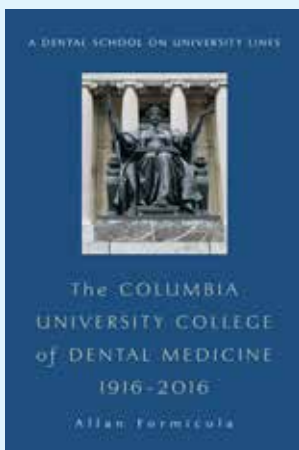
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A Dental School on University Lines



To commemorate the 100th anniversary of Columbia's dental school, Dean Emeritus Allan J. Formicola, DDS, has written a comprehensive history that traces the school's beginnings to its present status as one of the nation's premier dental schools.

"The Columbia University College of Dental Medicine 1916-2016: A Dental School on University Lines" not only chronicles the history of dentistry at Columbia, it also tells the unique story of 20th century dentistry as a discipline and provides a look into the future of academic dental medicine.

The book describes the early leaders who started Columbia's dental school. "Several early leaders stand out," says Dr. Formicola. "The giant among them, William J. Gies, was not a dentist but a biochemist at the College of Physicians and Surgeons. The book tells how Gies got involved in dentistry and attracted the best and the brightest of New York City dentists to collaborate with him to produce the school's visionary founding document."

The book's six chapters record key periods in the school's development during the 100 years by



Dean Emeritus Allan J. Formicola with a patient in the 1970s

describing the college's leadership, faculty, students, and graduates. One reviewer characterized the book as "a remarkable book about a critical achievement in the history of human health."

Proceeds for the book, which was published by Columbia University Press, will benefit the Formicola Fund in Oral Health Disparities.

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Rotor
اپکس لوکیتور

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لایت کیور
با قدرت فوق العاده ۷۷۰۰ وات

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سیستم تزریق گرم گوتا پرکا و فیلینگ ورتیکال با تراکم عمودی ساده و آسان با نتیجه متفاوت