MISSION STATEMENT

THE MISSION OF THE
NEW JERSEY DENTAL SCHOOL IS TO IMPROVE
ORAL HEALTH AND QUALITY OF LIFE THROUGH EDUCATION
OF ORAL HEALTH PROFESSIONALS AND SCIENTISTS, THE CONDUCT OF
RESEARCH, THE PROMOTION OF HEALTH AND DISEASE
PREVENTION, AND THE DELIVERY OF ORAL HEALTH
CARE TO COMMUNITIES THROUGHOUT
THE STATE.

New Jersey Dental School Goals

STUDENTS
Recruit and select the most qualified applicants
for admissions, with special efforts aimed at minority
students.

FACULTY
Recruit and retain the highest caliber faculty, with efforts aimed
at minority faculty recruitment and retention.

CURRICULUM
Prepare dentists who possess the knowledge, skills and values
to begin the practice of general dentistry.

RESEARCH
Contribute to the broad body of basic and applied
knowledge related to oral and systemic health.

PATIENT CARE
Provide quality comprehensive care through pre-doctoral,
postdoctoral, faculty practice and outreach programs to patients
of all means and backgrounds.

COMMUNITY SERVICE
Promote oral health in New Jersey, through education and
delivery of services, and advocate for resources to promote
health in New Jersey.

Core Values

People and Diversity
Ethical Behavior
Excellence
Collaboration
Innovation
Positive Relationships and Trust
In my first months as University President, I have focused on our institutional goal of accelerating success. My fervent belief is that we will meet this goal in a timely manner.

I am encouraged by the commitment at UMDNJ-New Jersey Dental School to create an environment of opportunity for their students. These future dentists will have the support and training to achieve the highest standards of excellence in their chosen profession. An important corollary to this educational mission is community outreach, in the hope that service to others will become a permanent part of their professional lives.

This year NJDS introduced a fourth pipeline program — Dental Exploration — to attract young students from populations that are underrepresented in the profession of dentistry. This is only one of the efforts to ensure that an environment of diversity and inclusiveness remains a priority for the School. One example of the dental school’s outstanding students is Erginio Fernandez, who was among a select group of 10 dental students in the New York metropolitan area to receive a National Hispanic Health Foundation scholarship.

This has been a year of many notable faculty achievements, as well. The Chronicle of Higher Education ranked the Department of Oral Biology’s faculty seventh nationwide for scholarly productivity among universities offering similar programs. This is quite an accomplishment for a department that is only five years old. And together the entire research faculty garnered nearly $3 million to continue developing new, innovative methods of diagnoses and treatments.

Congratulations are also in order to Dean Cecile Feldman on her appointment to the National Institutes of Health Council of Councils. This advisory body makes recommendations to the NIH director in support of research that represents important areas of emerging scientific opportunities, rising public health challenges or knowledge gaps that deserve special emphasis and would benefit from collaboration among NIH institutes and centers.

I applaud all the dedicated people at NJDS for contributing to an environment of excellence. They have committed to the core values of this University, which help shape a better future for all they touch, and I look forward to working with them as we meet the challenges ahead.

William F. Owen, Jr., MD
PRESIDENT OF UMDNJ
Our number one priority at New Jersey Dental School is to ensure that each and every student receives an outstanding education in an environment of opportunity: the opportunity to learn, to practice and to serve.

This past year we have greatly enhanced our environment by excelling in the initiatives that define our mission — education, research, patient care and community service. We continued to expand and upgrade our facilities, so students learn in the most technologically advanced environment possible and live in a convenient and comfortable location. We continue to create new educational programs, so students have a variety of options while proceeding with their dental educations. And we continue to offer more opportunities than ever before to participate in patient care and community outreach, so students become sensitive to cultural and ethical issues, the community-at-large and their professional responsibilities.

The environment of opportunity that we have created and continue to foster is among the reasons that New Jersey Dental School has become pre-eminent in the country. We are the state’s only dental school; a responsibility that we take quite seriously. We take great pride in providing oral health care and education for our residents, no matter what their ages or socioeconomic backgrounds. I invite you to read this annual report to learn more about the environment of opportunity that is so vital to our success and to the health and well-being of those we serve.

Cecile A. Feldman, DMD, MBA
Dean, New Jersey Dental School
New Jersey Dental School (NJDS) is one of the eight schools that comprise the University of Medicine and Dentistry of New Jersey (UMDNJ). Although an integral part of the University, NJDS is a vibrant, thriving community unto itself. Our school is a microcosm of the diverse region and state we serve; our students, faculty and staff have backgrounds that are extraordinarily varied, yet we are united by the common goal of helping to improve the lives of those we serve.

Throughout the academic year, we come together to participate in a variety of activities: from our annual fall softball game—faculty and staff vs. the incoming class—to our formal winter gala and our celebration of spring. By spending time together away from classrooms and offices, we reinforce the collegial environment that exists at NJDS. We work together to educate the next generation of oral health care providers, scientists and leaders, in an environment that is extremely rich in opportunity.

Summer Retreat
After a one-year hiatus, we reestablished the tradition of holding an annual summer retreat. The entire NJDS family gathered in the Oral Health Pavilion in July to hear “The Hidden Curriculum,” a talk given by Dr. Marilyn Lantz of the University of Michigan and Dr. Pamela Zarkowski of the University of Detroit Mercy. Mr. Richard Sweeney, university librarian at New Jersey Institute of Technology, presented his research on the Millennial Generation. In the afternoon workshops, faculty committees focused on the clinical curriculum, honor code and professionalism and ethics, while staff discussed cultural diversity in the workplace.

“The retreat generated very valuable feedback and ideas that we are using as we move forward,” said Dean Feldman. “It is vital to our success that we continue to look at ways to improve as educators and oral health care providers.”

Celebrating Longevity
The faculty and staff are the lifeblood of NJDS, giving their absolute best every day. Many of our employees have been with the school almost since its inception, so Dean Feldman implemented the first Service Recognition Program in December. Employees who reached landmark years of service received a certificate and pin, and the entire school enjoyed a buffet lunch. A total of seven staff members have worked at NJDS for 30 to 35 years, and six faculty members have been at the school for 40 to 45 years. Although the focus was primarily on those with longevity, Dean Feldman told the gathering that every employee, even the newest, was being honored. “Because of each of you, we are able to conduct research, educate the next generation of oral health care practitioners and serve our community,” she said. “Never underestimate what you do. Absolutely every job is vital to the success of our school.”
Sleeping Soundly
Our students now have the option of living in affordable, upscale University housing. A 234-unit apartment complex was completed in August 2006 at 180 West Market Street in Newark. The new apartments provided the final buildings needed to enclose our campus and create a safer, quad-like environment. Some 30-plus NJDS students currently live in the new apartments.

A fully furnished studio, one-, two- and three-bedroom units have all the features that students who were surveyed said were most important: around-the-clock security, on-site parking and laundry facilities, and high-speed Internet connections. A beautiful lobby and outdoor terrace have become favorite gathering places.

“Most professional-school students have very hectic lives, but living in the student apartments really helps simplify my life,” says second-year student Ryan Galligan. “There are no worries about traffic, gas money, tolls or missing class because of car trouble. The apartments have all the amenities I need to help minimize the stress in my life.”

University Welcomes New President
With a strong background in academic medicine, clinical care and research, William F. Owen, Jr., MD, began his duties as the fourth president of UMDNJ on July 1. Before coming to the University, Dr. Owen served as chancellor and vice president for health affairs at the Tennessee Health Sciences Center in Memphis. He has 25 years of academic experience at Harvard Medical School and Duke University, and spent 12 years as a clinical and academic staff physician at Brigham and Women’s Hospital in Boston.

As a research scientist, Dr. Owen garnered some $10 million in external funding and has published more than 200 journal articles, 23 book chapters and two books. He is a member of numerous national boards and professional organizations and is currently serving as president of the Renal Education Foundation.

At the Forefront in Preparedness
In today’s age of terrorism, our school has taken the lead in preparing for all types of emergencies. Our Emergency Plan Operation (EPO) was developed in 2005 and fits into the University’s overall Emergency Preparedness Policy. We have been participating in evacuation drills on a regular basis, and this year we conducted our first Shelter in Place drill. This is declared in an external disaster and people are asked to keep the roads clear for emergency vehicles by
remaining in the building. During the drill, an incident command center was established, groups of people were safely moved to a shelter location within the building, and our emergency communications were tested.

Fire drills and Shelter in Place drills are the first two phases of our Emergency Plan Operation. The final phase, a Lock Down drill, is currently being developed. A Lock Down emergency is declared when there is an immediate threat of danger within the building, and everyone must remain inside.

Leadership

The deans, directors and department chairs make up the NJDS Administrative Council, headed by Dean Cecile Feldman. The deans are responsible for areas such as education, clinical affairs, student affairs, finance, and research. They work together to ensure that we have an environment of academic excellence, fulfilling our mission of educating practitioners who provide the highest quality oral healthcare and become leaders in their fields.

In addition to their duties at NJDS, Administrative Council members belong to various professional organizations and often hold elected and/or appointed positions. This year Dean Feldman was appointed to the National Institutes of Health’s Council of Councils (CoC). The CoC advises the director of the NIH on research that represents important areas of emerging scientific opportunities, rising public health challenges or knowledge gaps that deserve special emphasis and would benefit from collaboration between two or more institutes/centers.  

Leadership
in community-based health fairs and screenings throughout the area. We emphasized the importance of prevention and early detection of oral cancer.

At the 2007 Give Kids a Smile (GKAS) event, sponsored by Oral Cancer Foundation and National Children’s Dental Health Month, students, faculty and staff participated in dental screenings, students, faculty and volunteers distributed information on oral cancer and explained how important screenings are in detecting the disease in its earliest stages.

JUNE

We joined in the spirit of giving, once again, at the New Jersey Special Olympics Summer Games. As part of the Special Olympics Special Smiles program, volunteers performed dental screenings, provided oral hygiene and nutritional instruction, and manufactured mouth guards for the athletes. In 2007, NJDS served over 600 special athletes at the Summer Games held on the campus of The College of New Jersey.

JULY

NJDS faculty and staff attended the Summer Institute, where they heard talks on “The Millennium Generation” and “The Hidden Curriculum.” In afternoon workshops, faculty focused on the clinical curriculum, and the honor code and professionalism and ethics, while the staff disclosed cultural diversity in the workplace.

In Phase II of the new pipeline program, Dental Exploration, a group of students from Science Park High School visited NJDS. They heard a presentation on oral health given by Rosa Chavarría-Morin, DMD, the acting director of Multispecialty Affairs, and Nadege Dady, MD, ED, director of Student Services. The 2007 induction of students from Science Park High School into the NJDA.

In December we began a new tradition of honoring employees with longevity. At the first Employee Service Recognition event, faculty and staff who have been with the school for at least five years and were celebrating landmark years received a custom-made NJDS lapel pin inscribed with the number of years of service.

November

In Phase II of the new pipeline program, Dental Exploration, a group of students from Science Park High School visited NJDS. They heard a presentation on oral health given by Rosa Chavarría-Morin, DMD, the acting director of Multispecialty Affairs, and Ms. Nadege Dady, MD, ED, director of Educational Programs. Then they donned proper clinical attire and painted their teeth with a plaque-dis-
Extraordinary Educators and Mentors

Our faculty members are the heart and soul of our institution. They engage in innovative research, are published in prestigious, refereed journals and have written numerous monographs, book chapters and books. Many have private practices, and they regularly volunteer in the community, providing dental services to those who would not otherwise have access to oral health care.

First and foremost, however, they are dedicated, enthusiastic teachers, who demand the absolute best from their students. Our outcomes data, including board passage rate, clinical licensing exam results and placement into postgraduate programs were outstanding last year. For Part I of the National Board Dental Exam, our numeric scores put us eighth in the nation. Our clinical Northeast Region Board (NERB) exam results continue to top others in the region, with 100 percent of our students passing by graduation. And once again, we had 100 percent placement of our fourth-year students into postgraduate programs of their choice.

It is no surprise then that our professors are continually being honored for their commitment to providing the best education possible. In 2007, two professors in the Department of Restorative Dentistry received Excellence in Teaching Awards from The Foundation of UMDNJ. They are Asha Samant, DMD, MEd, MSc, associate professor, and Nicholas Conte, DMD, assistant professor. A total of eight NJDS faculty have been inducted into the Stuart D. Cook, MD, Master Educators’ Guild since its inception in 2000. The 2007 inductees are Louis DiPede, DMD, assistant professor, and Nicholas Conte, DMD, assistant professor.

The Best and Brightest

The Class of 2011 attests to the reputation that NJDS has earned as one of the top dental schools in the nation. The 87 entering students were chosen from 1,946 candidates, the largest applicant pool in the school’s history. They hail from across the country, and the class’s combined overall GPA, science GPA and Dental Aptitude Test scores are the highest of any incoming class in the school’s history.

Along with attracting some of the nation’s best students, we continued our commitment to enroll qualified underrepresented minorities. Of the 87 class members, nearly 31 percent is Asian; about 4 percent is Hispanic; and upwards of 6 percent is black. And 20 of the newest students participated in Gateway to Dentistry, our pipeline program for underrepresented college students interested in dentistry.

NJDS is a national leader in dental education. We have created an environment rich in educational experiences, on campus, in the community and across the country. Besides learning clinical skills, our students become sensitive to the cultural and emotional needs of their patients, and they leave NJDS ready to serve their communities and continue to strengthen the stature of dentistry.

An Environment of Learning

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Restorative Dentistry, and Barry Zweig, DDS, professor, Oral and Maxillofacial Surgery. Dr. DiPede is an NJDS alum and has been an assistant professor and course director since 2001. He has lectured on orthodontics across the U.S. and in Canada, and is a member of numerous professional organizations, including the International Society of Maxillofacial Rehabilitation, Northeast Gnathological Society, and the American College of Prosthodontics.

Dr. Zweig earned his dental degree from New York University and began at NJDS in 1970 as a clinical instructor. He is now a professor, with research interests in orthognathic surgery, dental implantology and pain control. His professional memberships include, the American Association of Oral and Maxillofacial Surgeons, American College of Oral and Maxillofacial Surgeons, American Association of Hospital Dentists and the American Dental Society of Anesthesiology.

NJDS Goes Global

American dentists now practice in one of the most ethnically diverse countries in the world: About 100 million people — or one third of the population — are from racial and ethnic minorities. And that trend, say Census Bureau experts, is expected to continue.

Today’s dental practitioners must understand the specific health care needs of all communities and be sensitive to the cultures and beliefs of every patient seeking care.

Our students are being prepared to do exactly that. Besides working in a diverse environment on campus, in the community and across the country, our externship program expanded in 2007 to take students’ multicultural experiences a step further: across the seas. We launched an exchange program with Trinity College School of Dental Science, in Dublin, Ireland, after several years of across-the-pond negotiations. Trinity students John Madden and Sarifah Al Rashaid — a Kuwaiti studying in Ireland — spent two weeks rotating through the NJDS departments performing certain procedures in areas of their choice. In exchange, NJDS seniors Maria Ambio and Chris Connors spent two weeks in Dublin in August, participating in case conferences and observing in clinics and classrooms.

Arnold Rosenheck, DMD, assistant dean for hospital affairs and institutional development, initiated the discussion with Trinity, and Kim Ferency, DMD, associate dean of Student Affairs, and Ms. Jeanette DeCastro, director of Academic Advisement and Student Support, put the program into place. Students’ travel expenses were offset by a grant from the International College of Dentists.

“In today’s shrinking world, with so much strife and misunderstanding among people, the exchange of students in health professions will help create a bridge between different cultures,” says Dr. Rosenheck. “And, students are able to appreciate that there is more than one way of doing things.”

This year we also welcomed our first International DMD class. The program is designed for qualified dentists educated outside of the U.S. and Canada, who plan to pursue a dental career in the U.S. or return to their countries with additional skills. We intentionally limited the inaugural class to only 11, however, the entering class of 2008 will be filled to capacity, with 16 students.

The class completed a rigorous three-month summer program of preclinical labs and didactic summary courses that brought them up to speed before joining the traditional third-year students in the fall. “Not many people get this opportunity,” says Geena Padayattil, who earned a dental degree in India. “Even though it is hard work, it’s very satisfying to know that we are getting closer to our dream.”
Advancing Academics
Our academic offerings continue to grow and gain in popularity. The first matriculating student enrolled in our Oral Biology PhD program in 2007, and we have a total of 14 Master of Oral Biology students who come from as far away as Cyprus, Taiwan, Brazil, Venezuela, Saudi Arabia and Pakistan. One student from India, Raashi Khatri, received the only graduate oral biology scholarship awarded in the entire country.

Our implant program, which has pre-doctoral and postgraduate components, has dramatically grown in the last few years. In 2007, more than 500 implants were placed and are being restored. This is an increase of nearly 200 implants placed over those in 2005. That means all of our DMD students will now have implant experiences before they graduate. Only a handful of schools in the country are able to offer their students this opportunity.

Another Pipeline
First there was Decision for Dentistry and Gateway to Dentistry, and now there is Dental Exploration, a new pipeline program designed to attract underrepresented seventh- and eighth-grade students to dentistry. The two-part program was developed and implemented by Ms. Nadege Dady, MS, Ed, director of Educational Programs in Academic Affairs, and Rosa Chaviano-Moran, DMD, assistant professor of Community Health and director of Multicultural Affairs, in collaboration with Science Park High School in Newark.

In Phase I, NJDS students — including one Science Park graduate — visited the school for an hour-long panel discussion with the teens. Phase II brought a smaller group of interested Science Park students to campus, where they had an oral health presentation and participation in a hands-on project in the NJDS clinic. The program was a huge success and is continuing in 2008.
Community service is an integral part of what we are and all that we do. Students, faculty and staff routinely participate in health fairs, health education programs and oral health screenings, from early detection and prevention of oral cancer to detection and prevention of caries and periodontal disease. They teach nutrition and proper oral hygiene, distribute toothbrushes, toothpaste and floss at schools, nursing homes, community and cultural centers, churches and halfway homes in and around Newark and throughout New Jersey. And, they travel across the country providing services to those who do not have access to regular oral health care, and several have even gone to distant lands to perform much-needed cleft palate surgeries.

“Helping others is a hallmark of the dental profession; it is the most significant way we can give back to the community,” says Dean Feldman. “We have created an environment of serving at NJDS, with the goal of instilling in students a lifelong commitment to helping others who need it most.”

Helping Special Olympians
Every year in June, we join in the spirit of winning at the New Jersey Special Olympics Summer Games, and 2007 was no exception. As part of the Special Olympics Special Smiles program, NJDS volunteers perform dental screenings, provide oral hygiene and nutritional instruction and fabricate mouth guards. In 2007, we served more than 600 special athletes at the Summer Games held on the campus of The College of New Jersey.

James Delahanty, DMD, EdM, clinical associate professor in Diagnostic Sciences, is the clinical director of the NJ Special Olympics Special Smiles program. “Special Olympics provides year-round sports training and athletic competition to more than 2.5 million people with intellectual disabilities in more than 180 countries,” explained Dr. Delahanty. “Special Smiles is designed to increase the athletes’ awareness of the importance of good oral health, with the goal of improving their ability to train and compete in the New Jersey Special Olympics.”

Giving Kids a Healthy Smile
Once again, we participated in the Give Kids a Smile program, a national event sponsored by the American Dental Association. The program focuses attention on the epidemic of untreated oral disease among disadvantaged children. We have been a part of the program since its inception in 2003.

In 2007, we saw a total of 1,104 school children, 775 on the Newark campus and 329 at the Galloway, Northfield and Somerdale clinics. A total of 180 NJDS students, faculty and staff, and staff and students from UMDNJ-School of Health Related Professions (SHRP) volunteered on the Newark campus.

Caven Brunsden, DMD, ’79, statewide chair of the event, estimated that more than 2,000 kids were seen throughout the state. He
helped out on the Newark campus, and the children enjoyed a visit from the Tooth Fairy, played by Carolyn Breen, EdD, CDA, RDA, RDH, professor and chair of SHRP’s Allied Dental Education. Debra Goldsmith, RDH, MA, assistant professor in Community Health, coordinated the effort. “This event is especially important because many of the children do not have access to regular oral health care,” says Ms. Goldsmith. “For many of the kids, it’s their first lesson in oral hygiene and nutrition, so we want it to be a positive experience.”

A Day at the Zoo
Families who visited Essex County’s Turtle Back Zoo on Children’s Dental Health Day in April got a special treat: Along with seeing the animals, they could participate in interactive exhibits, play carnival-style games and do arts and crafts, all with a dental theme. Some 50 NJDS students and seven faculty members were on hand to distribute toys, toothbrushes, toothpaste and information on proper oral hygiene and nutrition. Their parents and other adults could engage in brief discussions on prevention and early detection of oral cancer and take home pamphlets on that important subject. “The goal of our day at the zoo is twofold,” says Ms. Goldsmith coordinator of the event. “We want to reach as many people as possible with information on oral health care, and we want to create an environment in which children can have fun while they learn.”

Preventing Oral Cancer: One Screening at a Time
Every year thousands of Americans die of oral cancer, yet it can be detected in the early stages when it is most curable. NJDS has long been a driving force in the education, early detection and prevention of oral cancer. Our school was among the founding members of the Oral Cancer Consortium in the Northeast, a group of organizations and educational institutions that work together to raise the public’s awareness of the disease and promote early detection through routine oral screenings.

Each year, we offer free oral cancer screenings in April, in conjunction with the Essex County Cancer Health Fair. The University community and the public are invited, and in 2007 more than 200 people came for free screenings and information on preventing the disease. Postgraduate students and faculty volunteered their time to perform the screenings, and staff manned registration tables and distributed information and dental care products. Dental hygiene students from UMDNJ-School of Health Related Professions also participated in the event.

“In addition to our screenings every year, we partner with the county and the state on other oral cancer initiatives,” says Arnold Rosenbeck, DMD, associate dean for hospital affairs and institutional development. “Dean Feldman has committed our school to participating in programs with the goals of prevention and increasing the five-year survival rate and the cure rate for people with oral cancer.”

A New Oral Health Education Program
Children who regularly spend time at the Boys and Girls Clubs of Newark, Westside Unit, were the first to participate in a pilot program last spring, designed by Ms. Nadège Dady, MS, Ed. Six NJDS students from the Classes of 2007 and 2008, volunteered to help with the program. Geared to children ages 6 to 9, the Oral Health education program consisted of a presentation and an interactive demonstration on proper oral hygiene. The children then each received an apple with a cavity (a hole) that they filled, just like the dentist. The program ended with each child receiving a certificate of participation during a graduation ceremony.

Ms. Dady presented a second program at the Boys and Girls Club Broadway Unit in the fall, and has designed and will present programs to children at other Boys and Girls Clubs who are 10 to 12 years old.

Reaching Out to Our City
Throughout the year, our students and faculty present programs to children of all ages at schools, community centers and churches in and around Newark. Among the most active in community outreach are members of the Department of Community Dentistry.
of Community Health; Rosa Chaviano-Moran, DMD, assistant professor, and director of Multicultural Affairs at NJDS, and Ms. Debra Goldsmith, RDH, MA, and Rebecca Reed, DMD, both assistant professors. Asha Samant, associate professor of Restorative Dentistry, and Ms. Nadege Dady, MS, Ed, director of Educational Programs in the Office of Academic Affairs, also support these programs. Along with many other faculty members, these volunteers work tirelessly to spread the word that proper oral hygiene and regular dental check-ups result in better overall health and, therefore, a higher quality of life.

Reaching Out to the Nation
Ten members of the Class of 2008 spent a week of their summer vacation in August providing dental care to members of the Hopi Indian Nation in Polacca, Arizona. Their trip was made possible through the generosity of the New Jersey Dental School Alumni Association, the New Jersey Dental Association and many private, equally generous, financial contributions. Under the supervision of three faculty members, the students were able to attend to the needs of 178 patients by providing more than 400 dental procedures. They performed root canal treatments, extractions, restorations and periodontal/preventive therapy.

The faculty members who participated are James Delahanty, DMD, EdM, clinical associate professor, and Gary Vitaletti, DMD, associate professor, both in the Department of Diagnostic Sciences, and Ms. Debra Goldsmith, RDH, MA, assistant professor of Community Health.

Reaching Out to the World
Shahid Aziz, DMD, MD, associate professor of Oral and Maxillofacial Surgery, has been helping people in foreign lands for five years. He began in 2003 with a trip to Ecuador to perform cleft lip and palate surgeries, but in 2006 began going to Bangladesh, where he says the need is even greater than in South America. Last year, he again traveled to Chuadanga, and Sirajgonj, Bangladesh with a team of dentists and physicians. Together they were able to repair 76 cleft-lip and palate deformities.

Over the years, members of his teams have included Vincent Ziccardi, DDS, MD, chair and associate professor of Oral and Maxillofacial Surgery; Frances Devonshire, RN, oral surgery nurse; Oral and Maxillofacial Surgery; NJDS oral surgery residents, and physicians from UMDNJ-New Jersey Medical School. Dr. Aziz coordinated the 2007 trip with the Impact Foundation Bangladesh, with funding from Smile Train, KLS Martin, Stryker Leibinger and New Jersey Dental School.

“Shahid is a huge need for these types of surgeries in rural Bangladesh. There are probably 150,000 people with clefts, and there are only 10 surgeons in the country who do these types of surgeries,” he says. “These trips remind us of why we became doctors, and our residents find out how rewarding it is to help the global community.”

A Trip to St. Kitts
Our students seem to find community outreach opportunities in almost everything they do, even taking vacations. When Judy John-Roberts ’09 invited her classmates to her baby’s christening on her native St. Kitts, a group of students readily agreed. As plans got underway, the sojourners decided to incorporate community outreach into their trip. Under the direction of Rebecca Reed, DMD, assistant professor of Community Health, and with the help of Ms. John-Roberts’ parents, who live on St. Kitts, the students were able to spend a full day at community centers there and on the neighboring island of Nevis. They distributed toothbrushes and toothpaste and taught oral hygiene and nutrition to a total of 100 children.

“Many of our students enter dental school with a history of giving that comes from their family backgrounds,” says Dr. Rebecca Reed. “They enjoy combining community outreach with their studies. This trip is just one more example of the many good things they do.”
Last year began a new era in research at NJDS. In only five years, we have gone from receiving $500,000 in research funding for one year to nearly $3 million. We have also seen dramatic growth in the number of grant submissions and funded researchers. In 2002, only nine NJDS faculty were funded; this past year 17 received grants.

We upgraded and expanded our facilities, as well, and conducted the first studies in our new Clinical Research Center, the only one of its kind in the country. The anaerobic and aerobic laboratories adjoin the operatories, which makes working there much more efficient, and samples no longer need to be transported to other locations.

We also opened our new Microscopic Imaging Center, which has enhanced our research capabilities and is a resource for the entire University. UMDNJ scientists can now perform transmission electron microscopy, scanning electron microscopy, laser capture microscopy, and fluorescence microscopy.

A World Class Faculty
Our mission of scientific exploration is accomplished only because of our outstanding faculty. They are exceptionally resourceful, highly motivated and excited about the work they do. Our Oral Biology faculty is a prime example; they were among the most productive in the country, ranked seventh in the nation for scholarly productivity in 2007 by the Chronicle of Higher Education. They also had the highest percentage of faculty getting new grants, at 46 percent; the third highest percentage of faculty with journal articles cited by other works, at 85 percent; and the fourth highest total new grant dollars per faculty, at $164,987.

All members of our research faculty work diligently to find the causes, treatments and, perhaps, even cures, that will ultimately improve the oral and systemic health of those we serve.

Diagnostic Sciences
Every year, millions of people seek treatment for orofacial pain that is unrelated to dental problems. NJDS’s Division of Orofacial Pain — one of only 11 in the country — is dedicated to caring for these patients and finding more definitive methods of diagnoses and faster, more effective treatments. The division is headed by Eli Eliav, DMD, PhD, professor Dr. Eliav, along with Gary Heir, DMD, clinical professor and clinical director of the Pain Clinic, and Richard Portes, DDS, clinical professor, and their 13 postgraduate students, explore methods that will lead to more definitive diagnoses and faster, more effective treatments.

Many clinical studies underway employ Quantitative Sensory Testing (QST) to measure and detect sensory and pain thresholds. “One person with numbness in the lip may say it’s unbearable,” says Dr. Eliav. “Yet another, given the same stimulus, may report minimal complaints. We can now quantify the level of pain and sensation loss, using thermal, mechanical and chemical stimuli.”

An Environment of Discovering
GARY HEIR, DMD, CLINICAL DIRECTOR OF THE PAIN CLINIC, TAKES A PATIENT’S HISTORY.
Dr. Heir adds that they are differentiating inflammation from nerve damage and central nervous system involvement. “In patients with chronic pain, we can now determine if the cause is at the point where the pain is perceived or if it is emanating from within the nervous system,” he says. The scientists are using QST to diagnose a number of conditions, including atypical odontalgia, or pain in a tooth that is not caused by an abnormality. This may save countless odontalgia patients from being misdiagnosed and undergoing unnecessary dental treatment.

Burning Mouth Syndrome, or BMS, is the focus of another study in which Dr. Eliav and his team have made great strides. BMS causes burning in the oral cavity — especially the tongue — unrelated to other diseases. Using QST, the team was the first to show BMS is caused by reduced activity in one of the two main nerves in the tongue. The two nerves usually balance each other; however, in BMS, one nerve becomes less active, and the function of the other becomes more predominant. There are medications that help restore the balance, but the researchers are looking for more effective treatments.

Faculty members in other departments are collaborating on the BMS research, including Scott Diehl, PhD, director of the Center for Pharmacogenetics; Vincent Ziccardi, DDS, MD, and Barry Zieg, DDS, both in the Department of Oral and Maxillofacial Surgery; Gary Hartwell, DMD, Department of Endodontics; and Louis DiPede, DMD, and Robert Flinton, DMD, both in the Department of Restorative Dentistry.

It has long been known that the anti-viral medications used for HIV may cause muscle pain, however no researchers have specifically focused on these patients’ facial pain. The team did, and they found that facial pain occurs much more frequently in HIV patients, and it is not related to their medication. It is now clear that HIV patients’ facial pain is a separate entity and requires specialized treatment.

The scientists are also looking at the nutritional and mental status of HIV patients, with Riva Touger-Decker, PhD, program director of Clinical Nutrition in Diagnostic Sciences, and Karen Raphael, PhD, associate professor in Diagnostic Sciences and associate professor in the Department of Psychiatry at UMDNJ-New Jersey Medical School. They found that patients’ nutritional and psychological needs are related to pain levels, and patients should have a multidisciplinary treatment team.

Oral Biology
Daniel Kadouri, MSc, PhD, assistant professor, who came to NJDS in 2006, is experimenting with bacteria known to reduce biofilms. Most bacteria found in natural or industrial settings survive in microbial communities, known as biofilms. Researchers are using biological agents against biofilms, and Dr. Kadouri’s lab is using the bacteria *Bdellovibrio* and *Micavibrio*. The researchers’ long-term goal is to harness the potential of these organisms to control biofilms.

In a separate study, Dr. Kadouri is investigating the role of biofilms in oral infectious diseases, such as periodontitis.

Gill Diamond, PhD, received additional grant funds from the Cystic Fibrosis Foundation and Polymedix, Inc. for his current research focusing on the role played by antimicrobial peptides in protecting against bacterial infections. “Our hope is that we can use these results to add to the present therapies for cystic fibrosis,” he says.

In a separate study, Dr. Diamond’s lab developed a mouse model to study bacterial infections in the oral cavity. This research may help in understanding the natural ways humans protect against bacterial infections.
themselves from oral infectious diseases. Vincent K. Tsiagbe, MS, PhD, associate professor, who came to NJDS in 2006, is studying the relationships among normal cells that defend the body against infections and the way in which these relationships are used for lymphoma growth. Another aspect of his work, funded by the Cancer Research Institute, is determining if viral genes can be “turned on” in B cells.

A separate area of Dr. Tsiagbe’s research involves examining the role of immune cells in the development of gradual bone loss in periodontal disease.

Jeffrey Kaplan, PhD, is continuing his work on biofilm growth and detachment. More than 80 percent of human bacterial infections are caused by biofilms, including caries, periodontitis, endocarditis, and infections from medical devices. The detachment of bacteria from biofilms is a process that is necessary for the spread of infections to new sites. Dr. Kaplan’s work is expected to lead to novel strategies for treating biofilm infections.

This summer’s Olympics in Beijing will be more than a worldwide competition for Scott Diehl, PhD, and his team; the games will serve as their laboratory, as they investigate how variations in genes may alter the impact of air pollution on the athletes. The professor and director of the Center of Pharmacogenomics and Complex Disease Research, will work with colleagues from UMDNJ-School of Public Health and UMDNJ-Robert Wood Johnson Medical School, along with the Chinese ETS and medical scientists at Peking University. The NIH and the Health Effects Institute are funding the three-month project, which will assess the impact of air pollution on 100 athletes before, during and after the Games.

Another study in China that Dr. Diehl is planning will look at dental and skeletal fluorosis, a condition that weakens the enamel of the teeth and bones. Dr. Diehl and researchers from Xi’an Jiaotong University’s dental school will conduct the study in Shaanxi province, where the frequency of fluorosis is very high because of excessive fluoride in drinking water. The scientists will investigate other possible fluoride sources and will look at genetic susceptibility.

The team is also studying the pharmacogenetics of opioid side effects and analgesia. They are looking at whether genetic variations are responsible for the side effects associated with opioid medications.

More diagnostic sciences

Barbara Greensberg, PhD, acting associate dean of research, and Mahnaz Farahzad, DMD, assistant professor, are co-principal investigators in the “EVALUATION OF NATURAL HUMAN INTERFERON ALPHA ADMINISTERED OROMUCOSALLY IN THE TREATMENT OF ORAL WARTS IN HIV-SEPPOSITIVE SUBJECTS RECEIVING COMBINATION ANTIRETROVIRAL THERAPY: A PHASE II CLINICAL TRIAL.”

Karen Raphael, PhD, associate professor, received a $3.1 million grant from the NIH to investigate the causes of temporomandibular disorders (TMD), which is characterized by jaw and facial pain. In this multi-phase study, 180 women will participate in a sleep study, a stress reactivity test and an experimental test to determine how the central nervous system processes stimuli. Researchers will investigate if teeth grinding and clenching, especially during sleep, is a major cause of TMD. If pain is an abnormal stress response, in a second phase, saliva samples will be collected and examined to determine if genetic factors put people at greater risk for getting TMD.
with opioid treatments, usually the only effective medications for people suffering severe pain.

Dr. Diehl also received an NIH grant in 2007 to perform gene mapping of susceptibility to periodontitis.

Daniel H. Fine, DDS, continues to seek solutions to the oral health care disparities among populations in America. The chair of Oral Biology and director of the Center for Oral Infectious Disease, Dr. Fine recently received a $3.4 million grant from the NIH’s National Institutes of Dental and Craniofacial Research to study Localized Aggressive Periodontitis or LAP, an oral infection that affects 70,000 children in underserved areas of the U.S. This is the most comprehensive study of its kind to ever be conducted.

Fine and his colleagues will screen 3,000 healthy Newark school children for periodontal disease, cavities and the presence of Actinobacillus actimomycetemcomitans (Aa). One group of children will have Aa and one will not. Samples of saliva and dental plaque will be collected for analysis over a two-year period. The saliva will also be used to determine susceptibility factors in those who develop the disease.

Scott Kachlany, PhD, assistant professor, is shedding new light on possible cancer therapies, using the latest luminescent technology. He and a team of collaborators at The Cancer Institute of New Jersey are investigating whether a bacterial toxin, known as leukotoxin, may be useful in treating certain types of leukemia and lymphoma. They are among only a handful of researchers in the world studying this particular toxin.

The scientists developed a leukemia cell line that is light-producing by adding the gene that enables fireflies to light up. When the researchers added leukotoxin to the luminescent malignant cells, they lost their light, indicating they had died. This means leukotoxin might become an alternative treatment in certain leukemias and lymphomas.
A  luminary, friends, and faculty provided over $1 million in support to New Jersey Dental School during 2007. This includes new gifts and payments on pledges to Goerg New Jersey Somewhere to Smile — The Campaign for New Jersey Dental School. The campaign has raised over $5 million from alumni, faculty, and staff for projects underway in the new Oral Health Pavilion and at the Bergen Street Pavilion.

The Leadership Committee chaired by Dr. Anthony Volpe (DDS, 1960), with faculty member Dr. Howard Dweck (1982), and alumni Dr. Carol M. Brunnedl (1979) and Dr. Nancy L. Villa-Brunnedl (1983) continue to spearhead NJDSF’s efforts to raise considerable funds for a new aesthetic and restorative dentistry center and a new pediatrics/special care treatment center. Note-worthy contributions have been made by the Reverend Foundation and Ronald McDonald House Charities.

In addition, NJDSF has received numerous gifts toward scholarships and endowed chairs, enabling the best and brightest students to participate in research and treat patients. Programmatic gifts have supported continuing education and outreach programs, such as the Indian Health Services trip to Indian reservations in Arizona and the Dakotas.

The Foundation of UMDNJ wishes to express its sincere thanks to all donors on behalf of NJDS students, their families, staff, and the patients we serve. All benefit from the generous gifts listed below.

GIVING NEW JERSEY SOMETHING TO SMILE ABOUT CAPITAL CAMPAIGN

Listing includes multi-year pledges to the expansion fund and scholarship endowments