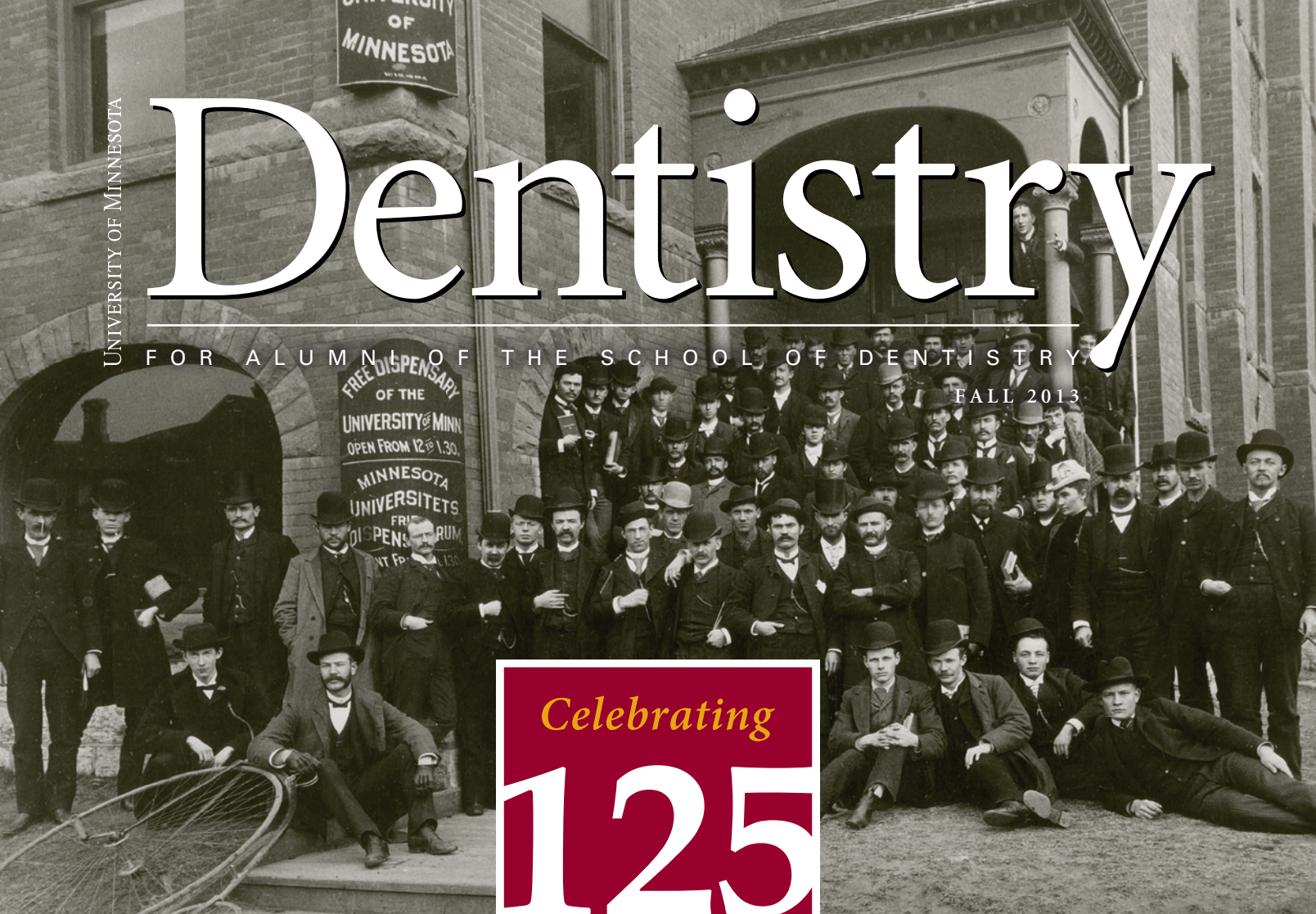


UNIVERSITY OF MINNESOTA

Dentistry

FOR ALUMN OF THE SCHOOL OF DENTISTRY

FALL 2013



Celebrating
125
YEARS
1888-2013



Inside History of the School ■ Meet Our New Dental Therapists ■ NIH Student Scientists



from the Dean

Dear Colleagues,

Love, admiration, friendship, support, commitment. It is sometimes said that you can love an institution, but only people can love you back.

As I read this issue of *Dentistry* and the feature article devoted to celebrating our first 125 years as the University of Minnesota School of Dentistry, I stopped often to think about and appreciate the contributions of the countless individuals who made each of our many accomplishments possible. I thought about our faculty, staff and students throughout the years and those who serve and learn in our school today. Included among them are the leaders of our programs—in such fields as craniofacial disorders, head and neck pain, and biomaterials science. It is the people behind our remarkable history who are the heart of our school and make it a place that evokes our commitment.

You'll also read in this issue about those who, today, continue to make great contributions and discoveries in our research programs, and some of the students who are developing their careers as scientists. They are unlocking the secrets of carcinogenesis, engineering new organs, and developing new therapies for dental caries and periodontal diseases. Our clinicians have improved the oral health of patients across our state and our region. Every community has benefitted from the great care of Minnesota dentists and dental hygienists. More and more people are gaining the benefits of good oral health with University of Minnesota dental therapists as part of the team. Behind every one of these stories are real people and real lives, those people who, like you, are committed to improving oral health and making a better Minnesota.

As I look ahead to what's in store for our school, I see an amazing future for Minnesota dentistry.

We will continue to develop the oral health team under the leadership of our dentists to improve the quality and economic value of oral health care. With the best dental hygiene program in the nation and the only dental school-based dental therapy program, we have a unique opportunity to advance the delivery of oral health care. We look forward to an enhanced Outreach Program that will, in partnership with communities of stakeholders, reach out across our region, especially to rural communities facing an oral health workforce crisis in this decade. We plan to increase our research discoveries in both our current areas of research strength and in new areas of inquiry yet to be imagined. We expect that our dental students will continue to develop as the premier clinicians in dentistry with the highest level of patient care experiences and the latest technology dentistry has to offer, maintaining the unsurpassed clinical excellence Minnesota is known for. We will do all of this because of our talented staff, students and faculty of the "U."

As I read the stories of today's students and faculty, I can't help but also recognize my own sense of commitment and support to them. Treating the underserved, making the world better with improved oral health, creating a new and innovative oral health professional team for the future are Minnesota ideals.

How can we together, the people of Minnesota dentistry, demonstrate those positive feelings towards our school? Participate, join us, give back, donate to our school. Let others know that we are the best school in the nation. It's true we are an old line school, 125 years young, but we are nationally recognized as a 'new idea' leader in dental education and an innovator and pioneer in leading a new generation towards better oral health. But don't take my word for it. Just read about us in this month's *Dentistry*.

A handwritten signature in black ink that reads "Leon A. Assael". The signature is fluid and cursive.

LEON A. ASSAEL, D.M.D.
Dean

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FALL 2013

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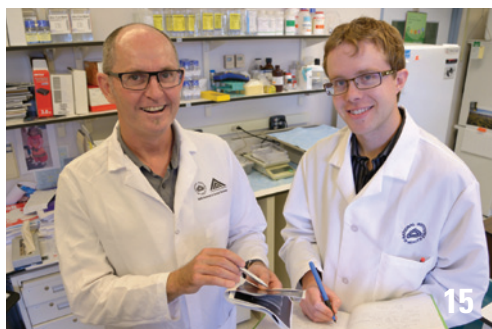


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On the Cover: School of Dentistry then and now. **Top:** Students and faculty from Department of Medicine, University of Minnesota, circa 1889. Woman standing in the first row, fifth person from the right, was identified in 1989 as dental student Edith H. White by her grandson, G.F. Weber, Jr. (Photo courtesy of G.F. Weber, Jr.) **Bottom:** A busy Advanced Simulation Clinic, 2010. (Photo by Steve Niedorf)

UNIVERSITY OF MINNESOTA

School of Dentistry

Driven to DiscoverSM

The University’s mission, carried out on multiple campuses and throughout the state, is threefold: research and discovery, teaching and learning, and outreach and public service.

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SCHOOL OF DENTISTRY
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News Bites

Kathleen J. Newell Receives Top Honors from University of Minnesota Alumni Association

Kathleen J. Newell, four-time University of Minnesota alumna and faculty emerita of the School of Dentistry, received the University's prestigious *Alumni Service Award* at a celebratory event on September 26, 2013, at the McNamara Alumni Center. The award was conferred by the University's Board of Regents, upon recommendation of the School of Dentistry, the Alumni Association and the All-University Honors Committee.

Newell's contributions—as a leader in state and national professional organizations, shaper of the school's dental

degree students preparing for academic and industry careers.

When confronted by domestic violence issues affecting her students, Newell partnered with the Program Against Sexual Violence and was integral in the development of a response program to better educate dental and dental hygiene students and practitioners to interact with patients affected by family violence. She was involved in the development and application of the Violence Intervention Model for Dental Professionals Program and CD, which is still in use today.



PHOTO BY RICHARD ANDERSON

Kathleen J. Newell

hygiene programs, presenter and educator, and as a consultant to international dental hygiene programs—are an inspiration to those who know her. On faculty from 1969 until her retirement in 2005, she worked passionately to build the school's dental hygiene program into the premier educational platform it is today. Her vision for promoting the growth and evolution of the dental hygiene profession led to a restructuring of the Graduate Dental Hygiene Program into a bachelor's degree program, and the more recent Master of Science in Dental Hygiene (MSDH) Program. Well before interprofessional education became the vogue, she forged partnerships with the School of Education and the Carlson School of Management to the benefit of master's

Newell's passion for education also led to a long-standing international collaboration with the Ernst Moritz Arndt University in Greifswald, Germany, and the formation of an international dental hygiene continuing education program there. The program—which recently celebrated its 20th year in 2013—enriches dental hygienists' and dentists' clinical skills while promoting the University of Minnesota and the profession of dental hygiene. Also under her leadership, the 1919 Society was formed to engage alumni in support of the Division of Dental Hygiene, and dental hygiene was established as an integral component of the alumni society.

Kathleen Newell is the immediate past director of the Division of Dental Hygiene (1987-2005). Before that she was acting division director (1984-86), head of the Bachelor Degree Completion Program in Dental Hygiene (1975-2004), an instructor (1971-76), and a teaching assistant in the Program in Dental Hygiene (1969-71). Newell holds a graduate dental hygiene degree, a bachelor's degree, a master's degree, and a doctorate in education from the University of Minnesota.

Minnesota Student Research Group Begins its Third Year

“We try to create socially stimulating events as well as events that are more strictly oriented toward research,” explains Colleen McShane, president of the Minnesota Student Research Group (MSRG), a chapter of the National Student Research Group.

Now in its third year, the MSRG promotes the pursuit of research among dental school students by sponsoring a number of activities aimed at spreading the passion for research shared by McShane and fellow members of the chapter.

Among other events, the MSRG offers CaseCATS (Critically Appraised Topics); students choose a case of interest, work with an advisor, perform a literature review on the topic, and go on to create posters for presentation and a small competition. The chapter also offers the Journal Program in which students

critique scientific papers relevant to clinical care; a Spring Dental Research Symposium that features presentations on evidence-based dentistry and research; and an annual Poster Workshop designed to assist Summer Research Program student fellows to create a poster about the research they conducted. Finally, the chapter hosted the first annual “Fall Research Seminar” this past November. This event serves as an opportunity for students highly involved in research to present their work and share their experiences with the health care community at the University of Minnesota.

“The MSRG serves as an outlet for dental students to remain engaged in research and practice their critical thinking skills throughout dental school,” says McShane. “It is easy to get caught up in



MSRG Journal Program

coursework, lab work, and clinical requirements. MSRG programs allow us to take a step back and think about where all this information is coming from. It offers leadership opportunities and ways of learning about what is going on in the field outside of dental school.”

MSRG Officers

Colleen McShane, *President*

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Mike Mittelsteadt, *Treasurer*

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Tony Schwigel, *CaseCATs Officer*

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Kyle Holmberg, *Member-at-Large*

David NedreLOW, *Immediate Past-President*

Dr. Joel Rudney, *Faculty Advisor*

Dental School and U-M Researchers Find Multi-functional Protein May Slow Progress of Head and Neck Cancer

Researchers from the University of Minnesota School of Dentistry and the U-M’s Masonic Cancer Center have discovered that the protein complex calprotectin—found inside cells—may be used to slow the growth of head and neck cancer.

In normal cells, the growth rate is tightly controlled by multiple cell cycle checkpoints. But when a cell becomes cancerous, one or more of these cell cycle checkpoints becomes damaged and the cell loses the ability to control how fast it grows. The damaged cell rapidly divides to form a life-threatening tumor.

For years, scientists have speculated that the apparatus controlling the cell cycle checkpoint included the proteins S100A8/A9, which make up the protein complex calprotectin.

Because the amount of calprotectin in head and neck cancer tissues is typically reduced to levels less than in normal cells, the researchers hypothesized that lower levels of calprotectin affect cell cycle checkpoint control and cause abnormal cell growth.

The latest research, conducted largely by Ali Khammanivong, M.S., Ph.D., a researcher (now) at the University of Minnesota’s Masonic Cancer Center, was published in the journal *PLOS ONE* (July 9, 2013). Khammanivong was part of the research team while a Ph.D. student in the Graduate Program in Oral Biology, where he studied in the lab of School of Dentistry faculty member Mark Herzberg, D.D.S., M.S., Ph.D., who was the principal investigator on the study.

“We learned that calprotectin works as a brake—similar to a brake in a car—to regulate the cell cycle and growth,” explained Herzberg. “When an epithelial cell is cancerous, it makes less calprotectin. Our findings suggest strongly that the loss of calprotectin causes the cancer to grow faster because, figuratively, the foot is off the brake.”

Researchers found that reintroducing calprotectin back into the cancer cells or reactivating molecular pathways controlled by calprotectin may help reduce tumor formation and progression.

School of Dentistry researchers who co-authored the study include senior author Herzberg, Brent Sorenson, M.S. (fourth-year dental student), Karen Ross, Ph.D., and deceased postdoctoral fellow Chengxing Wang, D.D.S., Ph.D.

The “Central Idea”

Looking back at our first 125 years.



October 2013 marks the 125th anniversary of the founding of the University of Minnesota School of Dentistry. In this article, we look back over a remarkable history and share just some of the entertaining milestones and dramatic changes of those years. Information about our first century is adapted from the school’s 1988 publication Our First Century of Excellence (1888-1988), as well as A History of the University of Minnesota School of Dentistry: 1888-1988 by Dr. Mellor Holland. We also highlight some of the transformative initiatives of the school’s more recent years, as recorded in school documents and other historical sources.

◀ Edith White in fencing attire.

Edith White and Gainsford Ridgeway were among the first class of 22 students to enroll in the University of Minnesota College of Dentistry in October 1888. The University had taken over the dental education program from a proprietary dental and medical school, and a faculty of four taught these new dental students how to run a “dental engine” (a.k.a., a drill) powered with a foot pedal, how to make their own instruments, and about the most current knowledge of oral health.

It’s difficult today to imagine just how revolutionary it was for Edith and Gainsford to study dentistry in a university setting, and as a specialty of medicine. At the time, there were three pathways to dental education: apprenticeships, proprietary schools, and university-based dental colleges. Until 1840 and the establishment of the first proprietary school in Baltimore, most dentists learned as an apprentice, an approach to education that also was common to medicine and law. Apprenticeships

were probably a step-up from the occasional practitioners who attended to dental problems without any training—the tinsmiths, silversmiths and goldsmiths (think Paul Revere), and barbers. But the apprenticeship was a private and unregulated education, dependent upon a mentor’s ability and experience. There was little or no attention to the principles of anatomy, psychology and pathology, and mentors were as likely to guard ideas and helpful procedures as a way of minimizing competition. The apprenticeship did little to legitimize or further the profession, and an organized campaign to elevate dentistry as a healing art was organized.

Minnesota’s first propriety school made the scene in 1883. Proprietary schools were an attempt to introduce a formal education to the profession, but clinical training was not widely included and the schools were dependent upon student fees and operated to make a profit for their owners. Eventually, apprenticeships disappeared and many proprietary schools were transformed into university

programs, as occurred in Minnesota with the formation of the University of Minnesota Department of Medicine, which included three colleges: The Colleges of Dentistry, Medicine and Surgery, and Homeopathic Medicine and Surgery.

The University founded its College of Dentistry on the principles of science and medicine. According to the 1894 *College of Dentistry Bulletin* “the central idea upon which this institution was founded is that dentistry is a branch of the healing art, and as such should be practiced as a specialty of medicine.”

Education

When it came to admissions requirements, the goals were lofty but the earliest standards were a bit less so. Initially, only “properly certified marks from some school,” were required to enter dental school. But the school quickly raised its standards. “We sift out severely,” said William Sudduth, the school’s first dean (1892-1895). Within the first decade, the College’s standards were reputed to be higher than those of most other schools.

TIMELINE

1888

University of Minnesota College of Dentistry was founded as a division of the Department of Medicine. Started with four professors, the College is the 8th university-based dental school in the U.S. Dr. Gainsford Ridgeway is the school’s first graduate.

1893-94

School’s first dean, William X. Sudduth, introduces hypnotism as an anesthetic in his popular oral surgery lectures. In 1894, patients wishing to have teeth extracted with ether pay a deposit of one dollar on artificial teeth.

1901-05

In about 1901, the use of X-rays as a diagnostic tool becomes available. In 1905, the school’s operating costs are \$21,387, of which half is earned from clinic services.

1912-16

Fire damages Millard Hall; dental classes resume 10 days later in temporary facilities. In 1916-17, D.D.S. program expands to four years for “preparation of dental surgeons of the best type.”

1917-18

In 1917, early graduation allows two-third of the dental class to serve in the U.S. Army as first lieutenants in the Dental Reserve Corps. In 1918, the entire class of 90 students enlists.

1919-20

In 1919, the State of Minnesota started licensing “dental nurses.” In 1920, a two-year dental hygiene program begins. It is the second such educational offering in a U.S. dental school.

By 1894, students were devoting 2,000 hours of their three-year curriculum to removable prosthodontics. Also in 1894, fixed prosthodontics came into its own. The remainder of the time spent in dental courses was principally devoted to the all-inclusive operative dentistry. Of course, dentists needed the tools to perform these procedures, so they learned vice, forge and machine work, and the principles of foundry work in order to manufacture their own steel instruments and brass impression trays. For these earliest University of Minnesota dental students, it was the highest of high-tech when, in about 1901, X-rays became available as a diagnostic tool and when “Uses of Electricity” was added to the curriculum in 1902. Over the next two decades, more courses were added, including required military training during the war years.

To complement the work of dental students, a two-year course in dental hygiene was added in 1920. In 1953, a program to educate dental assistants was created and continued for 30 years.

Eventually, the dental course was expanded to four years. A master of science degree program and a post-D.D.S.-Ph.D. program were introduced and, later, a combined D.D.S.-M.S.D.-Ph.D. program was added to foster the development of researchers and teachers. By 1988, a full range of graduate specialty programs was available to students.

Throughout the years, course content and teaching methodologies kept current with the explosion of knowledge. As restorative disciplines were revolutionized with the advent of the air turbine hand-piece, composite resins, bonding and a host of related materials and techniques, course content adapted. Courses in practice management, ethics, and public health were introduced. Clinics provided high quality, low-cost comprehensive care



PHOTO COURTESY OF UNIVERSITY OF MINNESOTA ARCHIVES

Busy third-floor clinic in the Medical Sciences Building (Owre Hall), early 1950s.

to thousands of patients throughout the region. And studies in the prevention and treatment of oral disease expanded, exemplifying once again the “central idea” of science-based dentistry.

The Facilities

The College of Dentistry would turn 25 years old before it gained its own home in the University. From 1888-1913, dentistry shared housing with others—the Colleges of Medicine and Surgery, Homeopathic Medicine and Surgery, and Pharmacy. By 1890, a cramped Department of Medicine prompted construction of the Medical Chemistry Building and Medical Hall, later named Millard Hall, which housed the dental college until a 1912 fire. After finishing the academic year in temporary

space, the College found a home in the Laboratory of Medical Sciences Building, sharing space with the College of Pharmacy for one year before taking sole possession in 1913-1932. The building was re-named the Dental Building in 1915.

In the 1920s, pressure for expansion prompted proposals for a medical complex to be coordinated architecturally by Cass Gilbert, who designed the Mall of the University Campus and the St. Paul Capitol Building. When plans fell through, the College sought its own funding, with help from the Minnesota State Dental Association as a legislative advocate. The legislature appropriated funds, construction began in August 1931, and 14 months later the College moved into the new Medical Science Building 📍

1926-27

In 1926, the average U.S. dental school investment in dental research is \$2,955. In 1927, admission to the D.D.S. program required two years of college.

1930s

Faculty members conduct research on topical application of fluoride on dental caries. In the same decade, the dental hygiene program moved from a nursing focus to an emphasis on dental hygiene and liberal arts.

1941-43

In 1941, the leading cause of rejection of WWII military inductees was dental defects. In 1943, the first American Dental Association accreditation team visits the school, which is ranked 6th in the nation.

1948

President Truman signs a law creating the National Institute of Dental Research as a branch of the National Institutes of Health. At his side were two Minnesotans: Carl O. Flagstad (ADA Legislative Chair and School faculty member) and Harvey B. Washburn (ADA president and School alumnus).

1950-57

By 1951, all states require licensure of dental hygienists. In 1953, School opens Program in Dental Assisting. It is discontinued in 1982 under pressure of budget reductions. In 1957, faculty participate in a community-based oral cancer detection program.

(later renamed Owre Hall) in time for the start of fall classes in 1932. It moved again to Moos Tower in 1976 where it remains today as the 19-story legacy of its seventh permanent dean, Erwin Schaffer, who rallied University and legislative leaders behind the new facility.

Research

According to the School's 1988 centennial publication *Our First Century of Excellence*, "Two views were visible to researchers working on the top floors of Moos Tower.

research, earned the school an international reputation for its contribution to the understanding of fluoride and decay prevention, microbiology, and oral facial genetic anomalies, among other areas.

In 1948, two Minnesotans—an alumnus and a faculty member—were at the side of Harry Truman when he signed the Dental Research Act which helped launch the National Institute of Dental Research as a branch of the National Institutes of Health. In those years, Minnesota's research funding reflected the national picture. In the

nation's first cariology training program was established in 1975. The school formed the Dental Research Institute in 1987 "to coordinate the application of high technology to problems in oral health." School researchers were early into robotics, developing an artificial mouth (ART) for use in developing and testing new dental materials. The Clinical Research Center for Periodontal Diseases came into being, a collaborative effort with two international corporations. A national center for biomaterials testing and development was



Dental hygiene students in clinic in the Dental Building. Circa 1930.



Gainsford Ridgeway, first dental graduate of the College of Dentistry, 1889.



Preclinical lab.

Through the window, the city below stretched out to the horizon and the world beyond. Through other windows—such as the microscope, the test tube and the computer screen—the scientists were privy to the intricacies and interplay of living organisms."

As early as 1913, funding for research in oral pathology and bacteriology came from the National Dental Association. In the 1920s, important studies on dental caries laid the groundwork for later fluoride research that attracted four decades of funding from the National Institutes of Health. These studies, along with other

1950s, federal money allowed the school to spend roughly \$30,000 per fiscal year on dental research. From 1982 to 1987, the amount spent on dental research at Minnesota ranged from \$1.5 to \$2 million per fiscal year.

The advanced education programs that the school initiated in the 1950s and 1960s attracted and developed dental researchers and faculty who have served throughout the world. The Summer Research Fellowship Program was established at about this time, pairing students with faculty mentors. The

established with corporate support from founding member 3M.

The School also launched a graduate placement and practice analysis program. In addition, the concept of interdisciplinary research and practice took root, and in 1980 the School started the country's first interdisciplinary craniofacial pain clinic. By 1988, the School had garnered a reputation in many areas of research including prevention of periodontal disease, pain control, oral cancer, and the clinical treatment of maxillofacial development defects.

1965

Cleft Palate Clinic moves to the School from Sister Kenny Institute. The clinic provides diagnostic and comprehensive treatment planning services for people with repaired cleft lip and palate and other maxillofacial anomalies.

1966-69

In 1966, school researcher documents appearance and general structure of Ø29 virus and extends knowledge of basic biology at the molecular level. In 1969, Minnesota is first state to mandate continuing education for dentists and dental hygienists to maintain licensure.

1970-72

In 1970, students start free dental clinic at Union Gospel Mission in St. Paul. Ground breaking for new Moos Tower is held in April 1971 (where School relocates in 1973-74). In 1972, University students barricade Washington Ave. to protest the Vietnam War.

1980-84

In 1980, School starts first interdisciplinary craniofacial pain clinic in U.S. In 1981-82, School creates nation's first University-based training program in geriatric dentistry. In 1984, School researchers patent a dental unit waterline filter.

1986

Student and faculty volunteers travel to Jamaica to treat patients. In the early 1980s, Jamaican children had one of the highest rates of dental decay in the world.

1987-88

School receives \$2.8 million grant from the National Institute of Dental Research to fund periodontal disease research. In 1988, the Artificial Mouth was a featured exhibit at the Smithsonian Institution.

Service

Volunteerism was a part of the dental school's earliest days when Edith White and classmates provided free dental care in the Seven Corners area of Minneapolis just blocks from campus. Alfred Owre, the school's visionary dean (1905-1927), placed special emphasis on the social responsibility of dentists. During his tenure, the School increased its efforts to share knowledge and resources with people from other lands. As its reputation grew, students came from as far away as Norway and China to study in Minnesota.

Faculty in oral pathology and oral surgery participated in oral cancer detection clinics conducted in Minnesota from 1957 to 1962, during which time 32,391 people received free screenings for oral cancer at 17 clinics. A rural health program started in 1968. From 1968-78, students treated patients in the Cambridge State Hospital. In 1969, students started a free dental clinic at the Union Gospel Mission in St. Paul, treating patients under the supervision of school faculty and area dentists with appointments as school consultants. Some students also found time in 1970-71 to teach reading skills to children with learning disabilities. Later, a team of volunteer students and faculty traveled to Jamaica for one- or two-week visits where they extracted teeth and provided preventive services in remote areas. And in 1985, spearheaded by a student, the school received a grant to teach students how to communicate and treat people who are hearing impaired.

School faculty, too, were often asked to share their knowledge and advice, traveling to many parts of the world to provide dental care, lecture and to study. In 1967, the William F. Lasby Visiting Professorship was established thanks to a bequest from his daughter's estate. The Lasby professorship exists to this day and

supports the visit of a scholar, usually from another country on a rotating, annual basis. In 1969 an international exchange program for undergraduate dental students welcomed eight students from Guatemala City's dental school. The program grew to include annual exchanges of students from Denmark, Norway, West Germany, and Peru. Minnesota students, as well as faculty, also participated in volunteer missions to other countries.

Today

The first 100 years of dentistry at the University of Minnesota were marked by education, research and service advances well beyond the capacity of Edith White, Gainsford Ridgeway and their classmates to imagine. As studies in the prevention and treatment of oral disease expanded, so, too, did the School of Dentistry evolve, retaining always the pioneering spirit that launched its inaugural class in 1888. That spirit continues to this day, as evidenced by the transformative initiatives that punctuate the first 25 years of the School's *second century of excellence* (see *summary on pages 8-9*).

Today, the University of Minnesota School of Dentistry is the state's only dental school and the only dental school in the northern tier of states between Wisconsin and the Pacific Northwest. In that role it serves as a regional resource to five states for dental education, consulting services, patient treatment, and ongoing continuing dental education.

The School educates 74% of the state's general dentists, as well as dental hygienists, dental therapists, dental educators, research scientists, and practitioners in six ADA-recognized specialties: endodontics, oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontology and prosthodontics. There are advanced education programs in dental hygiene,

oral health for seniors, oral biology, and in TMD and orofacial pain. School faculty provide academic leadership of a general practice residency program (in partnership with University of Minnesota Medical Center, Fairview, and University of Minnesota Physicians); graduates of international dental schools (non-Canadian) who wish to practice in the United States train here, as well. A novel, multi-disciplinary dentist-scientist training program rounds out the educational offerings. Some 7,000 dental professionals return to the School annually for continuing dental education.

In 2012, there were 107,860 patient visits to the School's on-campus clinics and 38,000 visits at 12 Outreach sites around the state and region. And the School's diversified research program—with identified strengths in bone biology and craniofacial development; biomaterials/biomechanics; oral health disparities and community health; oral infections microbiology; oral inflammation and cancer; oral pain and neuroscience—generates funding support from ten different NIH institutes and centers.

Above all, the School's graduates are leaders, active in their professions and pioneers in new traditions. Committed always to that "central idea" of science-based dentistry as a healing art, they care for patients and improve the oral health of their communities. Some have also gone on to co-invent the Sonicare toothbrush, and to serve in Congress, as president of the American Dental Association, and as deans of dental schools as far away as China. As they have from the beginning, the School's graduates extend the reach of the University of Minnesota into clinical practice, classrooms and research labs across the state and beyond, and help the School of Dentistry to fulfill its mission of education, research and service in support of the common good. ☉

Late 1980s

School alumnus co-develops a prototype sonic toothbrush. By 2000, more than 7 million Sonicare toothbrushes have been sold worldwide.

1990-93

Dental hygiene becomes a bachelor of science program. In 2001, it is the only dental hygiene baccalaureate program in Minnesota. Also that same year, School receives \$2.5 million federal grant to establish Oral Health Clinical Research Center. Research studies cover many subjects, ranging from new treatments and trends to alternative dental materials and toothpastes. In 1993, *A History of the University of Minnesota School of Dentistry 1888-1988* by Dr. Mellor H. Holland is published.

1995-96

In 1995, dental students become members of the Minnesota Dental Association's 8th District Dental Society. In 1996, School launches Migrant program. Using portable dental units, dental and dental hygiene students provide preventive and restorative care to children of migrant workers.

1997-98

In 1997, School faculty develops 3D Virtual Dental Patient. In the same year, School professor receives the international Premio Phoenix Verdi Award in Genetics. The award is referred to as the Italian Nobel Peace Prize. In 1998, School researcher links bacteria in dental plaque to heart disease.

Points of Pride

Transformative Initiatives 1998-2013

Student District Dental Society

In September 1995, School of Dentistry doctor of dental surgery students became the first in the nation to become members, through the Minnesota Chapter of the American Student Dental Association (MN ASDA), of their state professional association. Dental students who are part of the Minnesota ASDA Chapter comprise the 8th district dental society of the Minnesota Dental Association (MDA). Students participate on association committees and its Board of Trustees, and have voting privileges at the MDA House of Delegates.

Minnesota Craniofacial Research Training (MinnCResT) Program

Funded in 2002 with a major grant from the National Institute of Dental and Craniofacial Research, the MinnCResT Program is the University of Minnesota's largest NIH training grant, educating the next generation of independent investigators exploring questions in craniofacial, dental and oral health research. Working in cross disciplinary teams—with mentors and fellows in such fields as biology, neuroscience, microbiology, genetics, immunology, engineering, dentistry and medicine—training fellows begin, continue or expand their research careers and pursue novel research endeavors that are fundamental to biology and human health, and applied to expand the frontiers and scope of dental, craniofacial and oral health.

Simulation Clinic

Three decades after dentistry's move into Moos Tower, the building received its first appreciable facelift. In 2005, the school launched an \$11.2 million capital

campaign to fund the transformation of its outdated preclinical teaching labs into the most technically advanced patient simulation facility in the Big Ten. Designed for students raised in the digital age, the new clinic now features 108 patient simulator stations equipped with realistic operatory equipment, 20 advanced simulation stations with virtual reality-based technology for self-directed learning, plus two conference rooms and lab space. Here first- and second-year students hone their operative skills, learning eye-hand coordination, operator and patient positioning, and manual dexterity skills on the best practice patients available. Eighty-six percent of the school's full-time teaching faculty were donors to the project. The clinic opened in 2007.

Give Kids a Smile Day (GKAS)

The school held its first *Give Kids a Smile Day* as a pilot project in 2005. One year later, some 190 volunteers provided free



ADA American Dental Association®

dental care to 215 children in the school's on-campus clinic. By 2013, the (now) annual student-organized GKAS Day attracted 330 student, staff,

Program for Advanced Standing Students

and faculty, plus community volunteers who provided \$111,000 of free dental care to 178 children.

In response to a request by the Minnesota Board of Dentistry, the school developed the Program for Advanced Standing Students (PASS) to prepare non-Canadian internationally educated dentists to practice dentistry in the United States. Successful completion of the 2+ year program leads to a doctor of dental surgery degree, allowing successful graduates to sit for licensure examinations. The program began in 2006 and has accepted 68 students from 23 different countries.

UMP Dental Clinic

The school partnered with University of Minnesota Physicians and University of Minnesota Medical Center, Fairview to build and staff a unique new clinic that provides vital dental treatment to well patients and those whose underlying medical condition may add complexity to the management of their oral health. The clinic also serves patients who need additional care due to physical or developmental disabilities, dental phobias and anxiety. The clinic is home to the medical center's General Practice Residency Program; School of Dentistry faculty provide academic direction and supervise patient care. The clinic opened in May 2009.

Non Patient-based Licensure Exam

Prompted, in part, by faculty concerns about licensure examinations that require procedures be performed on live patients, the school worked with the Minnesota Board of Dentistry to advance new standards for initial licensure of its graduates to practice dentistry in Minnesota. The school provided the board access to all information about processes in-place to ensure that a quality group of students is admitted, a current and validated education is offered, and that graduated students are well prepared to practice dentistry. Assured of the clinical competence of U-M graduates whose evaluation is ongoing throughout their four years of dental education, the Board voted to accept the National Dental Examining Board (NDEB) of Canada's written and case-based exam for testing the clinical competence of U-M doctor of dental surgery graduates applying for initial licensure to practice dentistry in the state. The NDEB exam was first offered at the school in March 2010.

Master of Dental Hygiene Program

A new Master of Dental Hygiene Program accepted its first class of eight students in 2008. The program draws upon the research-

2001

School receives a \$5.1 million research grant to study temporomandibular joint disorders. Also in 2001, School completes "2000x2000x2000 Campaign" designed to increase annual gifts and attract new donors. The five-year campaign plus additional donations generates \$7.9 million.

2002

School receives \$6M from NIDCR to develop the Temporomandibular Joint Implant Registry and Repository (TIRR). A separate NIH training grant funds MinnCResT, an interprofessional program to educate craniofacial, dental and oral health researchers. School opens first fixed-site Outreach clinic at Hibbing Community College (in partnership with MnSCU). School also launches UCare Mobile Dental Clinic (in partnership with UCare).

2003-04

School launches Institute for Molecular Virology, a multi-college institute that promotes basic, clinical and translational research to improve health, with opportunities for research and career development for the next generation of virology researchers.

2005-06

In 2005, School pilots *Give Kids a Smile Day* and Outreach becomes a graduation requirement. That same year, School holds town meeting with Willmar area dentists to discuss a request from Rice Memorial Hospital for assistance in meeting oral health needs of the community. In 2006, School launches Program for Advanced Standing Students (PASS) to prepare internationally educated (non-Canadian) dentists for licensure in U.S.

intensive environment of the University's Academic Health Center and its Carlson School of Management to offer a portfolio of educational experiences designed to prepare dental hygienists for leadership positions within the healthcare industry, in a research environment, or in dental hygiene education. Students may pursue one of two curriculum tracks: management/business and dental hygiene education. In 2013, the program was renamed Master of Science in Dental Hygiene.

Dental Therapy Program

In 2008, Minnesota became the first state in the U.S to authorize licensure of dental therapists (no sooner than 2011) and, in 2009, the School of Dentistry became the first U.S. dental school to educate dental therapists. The inaugural class of nine dental therapy students graduated in December 2011. (See article on page 10)

Pediatric Dental Clinic Made Possible by Delta Dental of Minnesota

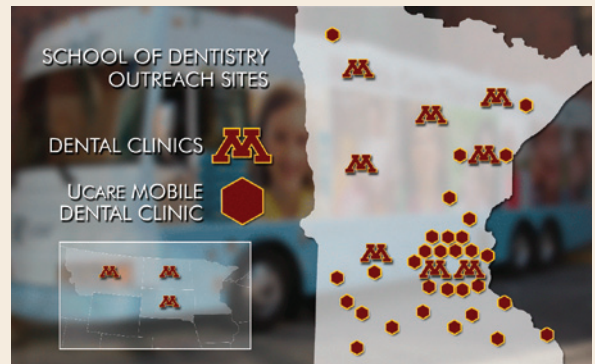
With a \$3.5 million lead gift from Delta Dental of Minnesota Foundation and additional donor support, the school funded and built the state's most advanced dental clinic for children that is home to the University of Minnesota Advanced Education Program in Pediatric Dentistry. Here, dental residents learn in an interprofessional environment and provide comprehensive dental care for children and adolescents, including well and medically compromised patients, and those who need additional care due to physical or developmental disabilities. The 14-chair, state-of-the-art clinic is fully integrated with the University of Minnesota Amplatz Children's Hospital. The clinic opened in April 2012.

An Award So Nice, We Received It Twice

In 2010, the School of Dentistry received the prestigious *William J. Gies Award for Vision* from the American Dental Education Association Gies Foundation. The award was given in recognition of the school's

Outreach Program

Starting in the mid-1990s and for almost a decade, students traversed the state—with portable equipment loaded into the back of a University van—to treat the children of Minnesota's migrant farm workers and public program patients in Greater Minnesota. More recently, the school worked with the Minnesota State Colleges



and Universities System (MnSCU) to open the Hibbing Community College Dental Clinic and began sending students to treat area patients in 2002. Also in 2002, a partnership with UCare Minnesota turned a 37-foot Winnebago into a three-chair dental office-on-wheels, staffed by students who care for UCare patients in 50+ underserved communities. In 2005, Outreach became a graduation requirement. That same year, the school partnered with Rice Memorial Hospital in Willmar, Minn., to fundraise, build and staff a state-of-the-art, hospital-based dental clinic. Opened in December 2007, the clinic now serves patients in 17 counties.

Today, all students spend six to eleven weeks treating patients under faculty supervision in one or more of 12 off-campus clinics located in underserved communities throughout the region. In 2012, there were 38,900 patient-visits to School of Dentistry outreach sites; nearly 90% of patients treated were uninsured or public program patients. For students, the service-learning experience builds cultural and clinical competence, and a broad understanding of the professional and social responsibilities they will have as dental professionals. Many credit their dental school outreach experience treating a diverse patient population with a variety of oral health needs as a significant influence in their choice to practice in underserved communities after graduation.

In 2013, Minnesota outreach sites include: The Hibbing Community College Dental Clinic, UCare Mobile Dental Clinic, Rice Regional Dental Clinic (in Willmar), the Native American Community Clinic Dental Clinic and the Community University Health Care Clinic (both in South Minneapolis), plus tribal and Indian Health Service clinics in Ogema, Cloquet, Red Lake and Cass Lake. Outreach rotations also exist in Howard, S.D., and at IHS/tribal clinics in Belcourt, N.D. and Wolf Point, Mont. *All Outreach sites were developed in partnership with public and area stakeholder groups.*



competency of School of Dentistry

role in advancing new licensure standards that allowed for a non patient-based examination to test the

graduates applying for initial licensure to practice dentistry in Minnesota. A second *Gies Award* in 2013 recognized the school's 30-year partnership between the Minnesota Dental Research Center for Biomechanics and Biomaterials and 3M to develop and test new dental materials. ☉

2007-08

- Simulation Clinic opens in April 2007.
- In December 2007, Rice Regional Dental Clinic opens. The hospital-based clinic is a partnership between the School and Rice Memorial Hospital, with financial support from Delta Dental of Minnesota, the University, HRSA, the State, and community foundations/stakeholders.
- By 2013, the clinic serves patients in 17 counties. A new Master of Dental Hygiene Program accepts its first class in 2008.

2009

- School partners with UMPhysicians and University of Minnesota Medical Center, Fairview to open a new general practice residency clinic. That same year, School starts the first dental-school based dental therapy program in the U.S. and works with Board of Dentistry to advance new standards for initial licensure of its doctor of dental surgery graduates to practice dentistry in Minnesota.

2010

- School partners with Native American Community Clinic to fundraise and open new dental clinic. Students staff clinics starting May 2010. School receives *Gies Award* for its role in advancing new non patient-based licensure standards.

2011-13

- In 2011, School and UMPhysicians open the state's most advanced pediatric dental clinic. Clinic is home to the Advanced Education Program in Pediatric Dentistry. In 2013, School receives *Gies Award* for 30-year partnership between Minnesota Dental Research Center for Biomaterials and Biomechanics and 3M ESPE.

Katy Can Do It

Welcoming dental therapists to the dental team.

BY TERRI PETERSON SMITH AND CLAUDIA KANTER



hen Katy (Kathlyn) Leiviska graduated from the University of Minnesota in 2008 with a

bachelor's degree in biology, she had her sights set on becoming a dentist. Like many dental school applicants, she'd been naturally drawn to the health sciences and to both the art and science of the profession. She had good grades and hand skills, wanted to work one-on-one with patients, and enjoyed—and even excelled in—a team-based approach to just about everything.

“I'd taken my DAT tests and was applying to dental schools,” says Katy. Then her undergraduate advisor suggested she consider a new program being offered in the School of Dentistry. “After researching dental therapy, I immediately pulled back all of my applications to dental schools and put everything I had into applying to the University's dental therapy program.”

In 2009, Katy joined eight others in the School of Dentistry's inaugural class of dental therapy students. They graduated in December 2011 and, together, are pioneering a new profession and model of oral health care delivery in Minnesota. Of her decision to become a dental therapist, she says, “I knew there would

be challenges ahead. But I have full confidence in the University, practitioners, future patients and myself to make this program and model of oral health care delivery successful.”

For Katie, part of that confidence had to do with the opportunity to learn alongside dental and dental hygiene students, in the same facilities and from the same faculty. According to Dr. Karl Self, director

“I knew there would be challenges ahead. But I have full confidence in the University, practitioners, future patients and myself to make this program and model of oral health care delivery successful.”

— KATY LEIVISKA

of the School of Dentistry's dental therapy program, this integrated approach to dental therapy education was strategic. Says Self, “One of our guiding principles when developing the program was that competency requirements for dental therapists would be identical to those for dental and dental hygiene students in the

areas in which their scopes of practice overlap. For us, that means patients can expect to receive a single standard of care, regardless of the education level of the caregiver.” The school also believed that learning together would allow all members of the dental team to develop an understanding and appreciation for the unique skills each provider brings to the patient care experience. “We were looking long-term, to the time when our dental students would be in practice,” says Self. “We hoped that (for them) working with a dental therapist would be a familiar and accepted experience, which would help facilitate the transition of dental therapists into the workplace.”

In the near-term, though, dental therapy is still something new. And just as dentists 40 years ago had questions about how to incorporate a dental hygienist into their practice, so, too have there been questions about the role of a dental therapist as a member of today's dental team. Katy and three of her classmates helped answer some of those questions at a School of Dentistry-sponsored workshop for future employers of dental therapists where she shared the following story: “We were nearing the end of spring semester,” she said. “Fourth-year dental students were in the clinics trying to complete their prosthodontic competencies,

which required they spend a lot of time in the lab. But they couldn't start the prosth services without first completing all of the operative care. There was a lot that needed to be done all at once."

And that's when she heard it: 'Katy can do it.'

"It was like a lightbulb lit up over the head of one of the dental students," she says, "and he just said it out loud: 'Katy can do it'. We'd learned together and worked together in clinics, and he knew what I was educated to do. And all of a sudden he understood how we could work together as a team to address the needs of our patient. After that, I worked with many of the dental students to help them complete their planned treatments."

From the Beginning

While it would be fair to say that the dental school didn't anticipate that dental therapy would be on the 2008 legislative agenda, Self says that school representatives were at the table from the very beginning of public discussion. "Lawmakers were talking about authorizing dental therapists to perform procedures until then provided only by a licensed dentist," he says. "As a land-grant institution and the only education program in the state *already* accredited to teach those dentistry procedures, we had a responsibility to contribute what we knew about dental education to the discussion."

A second reason was that dental therapy was being advanced as a way to address access-to-care challenges throughout the state and the school was heavily invested in a number of strategic initiatives to enhance access. Its underlying approach: address some immediate needs through outreach initiatives that send students to treat patients in underserved communities, and adapt class sizes and dental education in response to workforce needs and changes in the dental delivery system. (See *summary of outreach initiatives on page 9.*)

The legislation that passed in 2008 authorized the licensure of dental therapists no sooner than 2011. It also called on the Minnesota Department of Health to convene a work group to develop recommendations for the level of supervision, education, scope of practice and regulation of this new position, which would be considered during the 2009 legislative session. Former School ☺

Katy Leiviska ►



PHOTO BY STEVE WOOT

of Dentistry Dean Patrick Lloyd and Christine Blue, director of the University's Program in Dental Hygiene, represented the dental school on the work group, which also included representatives from the Minnesota Board of Dentistry, MnSCU, the Minnesota Dental Association, the Department of Health and other stakeholder groups.

Traveling the World

"In preparation for our work group participation," says Blue, "we visited some of the dental therapist training programs in countries that were referenced during those first legislative discussions in 2008. We wanted to learn first-hand about their programs." On the list of sites visited were

dentistry and dental hygiene, all areas within a dental therapist's anticipated scope of practice—were two representatives from the Minnesota Dental Association.

In July, an expanded group of 12 (which now included several other interested individuals) traveled to the University of Otago in Dunedin, New Zealand. The last trip in September was to visit two schools in Great Britain, with essentially the same delegation. At the time, there were 18 dental therapist training programs in Great Britain, all but two based in dental schools. At each stop, the group toured the education facilities, and talked with patients and dental therapy students, faculty and

"in Canada, we met a new dental therapy graduate who was setting out for her first practice location that was a four day's drive away. Given that significant distance, it was reasonable to think that dental therapists in Canada might warrant a broad scope of services because no other options for care are available. But in Minnesota, the distance between dental practices is just not that far. That might suggest that Minnesotans might be better

"We saw a dental school-based education as a way of assuring a single standard of care, and providing an education that the public could trust and the profession could embrace."

— KARL SELF

served by an education program that concentrated more on didactic and clinical sessions related to disease prevention, basic restorative care and palliative care."

Another difference: When dental therapy began in New Zealand and Great Britain, the new professionals were paid by the government to work in public schools, and children up to age 18 received free dental care. "That clearly wasn't going to be the case in Minnesota," says Blue.

The University contingent returned from its travels with an understanding of how and why other programs evolved as they did and a commitment to educating dental therapists in a dental school. "With some 3,000-plus dental practices throughout the state, our goal was to enhance access to care by increasing the capacity of the state's existing network of dentists to see more patients," says Self. "We saw a dental school-based education as a way of doing that by assuring a single standard of care, and providing an education that the public could trust and the profession could embrace."

The Department of Health's work group began its discussions in August 2008, charged with developing recommendations to the legislature about scope of practice and levels of supervision. At the same time, the School of Dentistry was discussing the curriculum for its own



PHOTO BY STEVE WOOT

Third-year dental therapy student Lydia Diekmann (L) and instructor Danae Seyffer, DT.

four with the longest histories of training midlevel providers. In May 2008, the School of Dentistry led a group that visited the dental therapist program at First Nations University in Saskatchewan, Canada, with a stop at the University of Saskatoon College of Dentistry to learn about its collaboration with the training program. Traveling with the dental school's six faculty members—who represented the disciplines of general dentistry, operative dentistry, oral medicine, pediatric

administrators to learn about the education program, the level of supervision, scope of services provided, and the health care delivery systems in which dental therapists treat patients.

Says Blue, "One of the things we learned was that each system developed consistent with its own needs and resources, some of which were not necessarily relevant or applicable to Minnesota as the state moved forward to develop its own model. For example," she says,

proposed dental therapy program, carving out those sections of the dental and dental hygiene curriculum that would apply to the preventive and restorative services anticipated to fall under the dental therapy scope of practice. By the time the final legislation passed in 2009, the school was ready to welcome its first class of students.

Meet the Classes

The School of Dentistry launched its Dental Therapy Program in fall 2009 with a class of nine students. Since then, 18 students have graduated and 24 more are in various stages of program completion. Though their backgrounds vary, many come from rural and out-of-state communities, and all share a history of academic success, a love of dentistry, and a commitment to care for underserved populations.

Among them is recent graduate Abigail Bursch ('12). A biology major at the University of Minnesota she was, like Katy, on-track to apply to dental school. She'd even served as treasurer of the Pre-Dental Club. Instead, Abigail joined the dental therapy program.

Her classmate, Theresa Bushnell, also made an academic adjustment. She'd just started a master's program at the University of Arizona where she was close to family and friends and in a program that afforded her both a 75 percent tuition waiver and a highly paid summer internship. But when she heard about the launch of the University's dental therapy program, she made the move, inspired by her own family's experience. "My father was an educator and my mother a homemaker. I remember my parents sending my grandmother, aunt and uncle money for dental care, which mostly consisted of extractions. People in many parts of the U.S. suffer from poor oral health and many state programs provide insurance that excludes adult coverage. I decided that as a dental therapist, I would play an active part in providing more restorative opportunities for these patients."

Lindsey Tisher and Brandi Tweeter (both 2011 graduates) are among the many who came to the U's dental therapy program with dental experience. Lindsey relocated to Minnesota from Wahpeton, N.D. where she'd worked in Imation's materials characterization lab; she'd also served for 13 years as a dental assistant

with the Air National Guard. And Brandi had 14 years of dental assisting experience. For her, dental therapy promised a way to grow in her career and find meaningful employment in her home town of Montevideo, Minnesota, a community of about 5,350. The dentist she was working for had encouraged the single mother of two to pursue a dental therapy degree and promised her employment after graduation.

For Jason Allred ('12), dental therapy was a career change. "Dental therapy was just the right fit for me," says Allred, formerly the owner of a small business in rural Wadena, Minnesota. "It was the quickest route to my goal of getting an education and helping communities in need," he says. And Danae Seyffer ('11), formerly employed at a biodiagnostics laboratory in River Falls, Wisc., shares

"I see greater efficiency in the clinic. Having a dental therapist on the team allows me to concentrate on the more complex cases and to work at the top of my license."

— DR. KEVIN NAKAGAKI, HEALTH PARTNERS

the very personal reason she chose to explore a new career. "My father grew up in rural Missouri and did not have dental insurance. The only time his family went to the dentist was when they had dental pain or other major issues. I saw the toll that it took on his family by not having access to dental care. Also, my mother was originally from Thailand and moved here when she was in her early twenties to attend school. Same story as my dad—no dental care unless they were having a dental crisis. Dental therapy was designed to help these populations, among others, to have access to dental care and dental education."

Pioneers in a New Profession

As students and as practitioners, the University's dental therapy graduates are pioneers and mentors to those who will follow. They're providing feedback about their education program and finding

employment across the state. Says Self, "We have graduates in private practice, non-profit community clinics, a Federally Qualified Healthcare Center, and in large group practices. Some also teach. Most of our graduates found their employment opportunities in Greater Minnesota. And, in all cases, the 'early adopters' who hired them are pleased and excited."

Lindsey Tisher launched her career by working part time, combining hours at the CentraCare Clinic in St. Joseph, Minn. with time at a college clinic in Moorhead. She's now employed fulltime at the St. Joseph clinic. Danae Seyffer is a dental therapist at Community University Health Care Center in Minneapolis, at Community Dental Care in Maplewood, and at the School of Dentistry as a clinical assistant professor. "There are a lot of misconceptions out there about dental therapists," she says, "and part of our job is to educate about this new profession and about how we can have an impact in our communities by providing excellent dental care. As time goes on, more clinics will open their doors to dental therapists and when that happens, people will see the difference we can make."

Kevin Nakagaki (D.D.S. '81), who supervises Katy Leiviska at HealthPartners, offers the dentist's perspective. "I see greater efficiency in the clinic. Having a dental therapist on the team allows me to concentrate on the more complex cases and to work at the top of my license." And back in Montevideo, Brandi Tweeter reports similarly efficient teamwork. "When Dr. Powers is running behind, I start a patient or vice versa. It smooths out the work flow. At this clinic, 85 to 90 percent of our patients are on medical assistance. There is such a demand for services—we were inundated last summer—but now there's a steady flow of patients." Financially the arrangement has worked well, too. And Dr. Powers and Brandi give talks to dentists to show them how it works.

Another clinic early to integrate dental therapists into its team is Children's Dental Services (CDS). Among its patients are nearly 30,000 low-income children and pregnant women across the state, including those on Medical Assistance. CDS Executive Director Sara Wovcha says that integrating a dental therapist into the team makes good sense. "With medical ☺



PHOTO BY REX McDONALD STUDIO

Dental Therapist Jason Allred ('12) with Dr. Ryan Anderson ('00) (center, sitting) and dental team at Woodland Dental in Wadena, Minn.

assistance reimbursements falling below the cost of providing care, there's no way the current financial model of care for public program patients is sustainable," she says. "We're reimbursed less per patient than we were in 2007, but all costs have gone up. Clinics like ours will go away without embracing new models. In addition to making financial sense, working with a dental therapist frees dentists to work on the most complex and challenging cases." She says that after working through a few questions about scheduling, integrating dental therapists into the practice has gone smoothly, and the dental therapists' focus on prevention is a highly effective strategy for the patients the clinic serves. Last summer, in a pilot program, CDS became a location for the University's dental therapy students to receive additional clinical experience. Wovcha says, "The quality of graduates from the School of Dentistry is amazing and that makes all the difference."

Brianne Borntrager ('12) is employed at Open Cities Health Care Center in St. Paul, a Federally Qualified Health Center. The former dental association employee had watched the progress of Minnesota's dental therapy legislation and relocated

to the state to pursue the new career. And she's finding her new position to be a perfect fit. "I have wanted to do dentistry since I can remember," she says. "I really enjoy my patients. I see a mix of adult and pediatric patients... many times, I'm the first person who's ever given them information about their teeth. It's my hope that their dental visit is a positive one and they're able to take the information and use it throughout their life."

And Jason Allred joined Woodland Dental, a private practice in Wadena. He says, "It's the best thing I have ever done. I wanted to change my life in a way that allowed me to devote my work time to helping underserved populations." Jason says that he can address most of the needs of his patients. Consistent with his scope of practice, his collaborating dentist makes the diagnosis and treatment plan, and does the required root canals; all other specialty care is referred out. "It's extremely rewarding and challenging," he says. "The community sees the value, and I have been booked out three months for some time now."

Says Nakagaki, "I'm a strong believer in the role of the dental therapist. We've been trying to meet the needs of the

underserved for a long time and there weren't many options left. This is a way to care for a population that, otherwise, struggles to find dental offices that take medical assistance. I don't see another way of managing as well or as economically."

"This is a new and evolving profession," says Self. "Our graduates are good ambassadors for dentistry, filling a real need by caring for patients who, before this, received little to no dental care, and educating their patients about how to take care of their oral health. At the same time they're freeing dentists for more complex operations and to run their businesses more efficiently. There are no losers." ☺

Program in Dental Therapy

Guiding Principles

The University of Minnesota Program in Dental Therapy will provide an education consistent with the authorized scope of practice of dental therapists.

Competency requirements will be identical to those of dental and dental hygiene students (for those services in which their defined scopes of practice overlap).

Patients will receive a single standard of care, regardless of the education level of the caregiver.

Program will be structured to complement rather than compete with other dental professionals.

Program will provide a foundation for professional advancement and career growth.

Graduates will contribute to reducing the cost of care and improving access for underserved communities.

Education will occur in a professional environment which includes dental hygienists and dentists, to ensure graduates are prepared to work in a team setting.

Program can be replicated by other dental schools.

UNIVERSITY OF MINNESOTA

School of Dentistry

Driven to DiscoverSM

The Sky's the Limit

Dental student Kyle Holmberg takes a year off from school—to work at the NIH.

BY RICHARD BRODERICK

Centered in a large, gated campus in the D.C. suburbs, the National Institutes of Health is the mother ship of medical-related research in the United States, if not the entire world.

For the most part, those who work there are at the top of their game, scientists for whom the NIH is the culmination of careers dedicated to biomedical research.

But among the best and the brightest headquartered at the NIH are a handful participating in a couple of different

“The mission of this program is to nurture the next generation of clinical scientists...”

— BRUCE BAUM, DIRECTOR
MEDICAL RESEARCH SCHOLARS PROGRAM
NATIONAL INSTITUTES OF HEALTH

programs geared to students who are not at the apex but at the onset of their careers. Among the highest achievers are the young members of the NIH's Medical Research Scholars Program (MRSP). In 2012-13, among the chosen few was Kyle Holmberg, a dental student from the University of Minnesota, one of only four dental students accepted into the 45-member inaugural MRSP class—and one of only five students who was not enrolled in a medical school;

the fifth research scholar was studying veterinary medicine.

“The mission of this program is to nurture the next generation of clinical scientists—in other words, biomedical scientists,” explains Bruce Baum, director of the Medical Research Scholars Program at the NIH. The outgrowth of a pair of earlier, long-time research training programs, the now two-year old MRSP, in Baum's words, is “geared very specifically for dental, medical and veterinary students.

“The idea is to give them exposure to research across a broad spectrum of science. Each scholar works with one senior NIH researcher, but they are exposed to science from the most basic experiments all the way to outcomes.”

In addition to time in the lab, research scholars like Kyle Holmberg facilitate their own research seminars and attend twice-monthly lectures by eminent scientists in the field of biomedical research, where the topic of discussion is not just purely about research.

“The program offered me the opportunity to do research most of the week, then go ☺

Kyle Holmberg ▶

PHOTO COURTESY NATIONAL INSTITUTES OF HEALTH



on clinical rounds on Wednesday [in addition to conducting basic and translational research, the NIH also conducts clinical trials with human subjects] and hear about rare diseases, then on Thursdays attend presentations from visiting scholars and scientists who talk not just about their work but about their life in science and how they got into it," says Holmberg, who also valued the post-lecture chance to have dinner with the visiting lecturers.

Institute of Dental and Craniofacial Research. His laboratory is investigating how salivary glands develop; it was in Hoffman's lab that Holmberg spent the year. "He was like a kid in a candy store around here," Hoffman says. "There were opportunities to get involved in many things—and he took advantage of it."

Despite these extracurricular opportunities, Holmberg's primary objective did not change: "I decided I

research and coordinator of the school's Summer Research Program, a 10-week program open to first and second year students, observes. "Ordinarily our students go through school together as a cadre," he says. But, given the extraordinary opportunity represented by the MRSP, an exception was made.

Rudney says, "When a student comes along who is so focused on academic research and gets a chance like this, we want to do all that we can to make it possible to pursue that focus in addition to clinical training, even if it means that student takes a year away from his or her dental education. Kyle's year at the NIH, then, is a comment on the quality of our students and on the research opportunities we try to make available to them.

"Of course, it is a comment on Kyle, too. He is an exceptional young man."

Making the Grade

Before Kyle Holmberg could take advantage of anything at the NIH, he first had to pass through the ring of fire that is the application process for the Medical Research Scholars Program.

This past year, the NIH received 170 applications for the program's 45 openings. A one-in-four chance of acceptance might not sound like such steep odds until another factor is added in: each applicant was a high achiever from the country's best medical, dental, and veterinary schools. Says Bruce Baum, "These people are the 'crème de la crème.' And each one of them is gutsy enough to take a year off from school and delay graduation and their post-graduation clinical training because they have an eye on a career that includes scientific research."

In turn, the 170 applications were divided up and distributed to 60 senior NIH researchers like Matthew Hoffman who are members of the organization's Board of Tutors. After being vetted and rated, about a third of the applicants were invited to be interviewed by committees made up of three senior NIH scientists each. Once again, applicants were reviewed and evaluations were submitted to the Board of Tutors, which passed along recommendations to an Executive Advisory Committee consisting of a cross-disciplinary group of 18 members of the Board of Tutors.



PHOTO COURTESY NATIONAL INSTITUTES OF HEALTH

Senior NIH researcher Matthew Hoffman (L) and fourth-year dental student Kyle Holmberg.

"It's a great way to get a picture of how to be successful in research and academics," he says. "It's a very enriching environment with lots of opportunities to make connections and learn how to make presentations at conferences and prepare manuscripts for publication."

Holmberg's mentor was Matthew Hoffman, a senior NIH researcher and chief of the Matrix and Morphogenesis Section of the Laboratory of Cell and Developmental Biology at the National

wanted to do this program because it is difficult to find time to do intensive research while also attending dental school," he says. "I came to the NIH so I could spend a year dedicating myself to developing as a junior scientist before going back and completing my clinical education."

Such a divagation from the conventional progress of dental education certainly is not the norm, as the dental school's Joel Rudney, assistant dean for

“It’s tough to get in,” says Baum in a case of classic understatement. “Merely by being accepted, Kyle has already proven himself a winner with a big future ahead of him.”

Once accepted, new medical research scholars are assigned a mentor and proceed to interview the principal investigators at NIH labs where the focus of work seems congenial. In Holmberg’s case, he ended up choosing the salivary gland laboratory overseen by his own mentor, Matthew Hoffman. The loss or damage of salivary glands is a major problem for many patients, in particular for those who have undergone radiation therapy for cancers in the head and neck. Without properly functioning glands, these patients suffer a lifetime of symptoms, from dry mouth tissue to increased rates of caries and gum disease. Hoffman’s lab is studying salivary gland development in embryonic mice with the ultimate goal of finding a way to get the gland to regenerate in humans using a patient’s own stem cells.

“Kyle has a strong interest in bioengineering,” says Hoffman, who, not incidentally, was a dental student before deciding to devote his career to research. “As his mentor, I stressed to him the value of learning something new—like cell biology.

“Obviously he is smart and did lots of reading and caught up with what we were doing very quickly.”

A Commitment to Research

Long before his acceptance into the Medical Research Scholars Program, Kyle Holmberg had already distinguished himself through his research and leadership, participating in the School of Dentistry’s Summer Research Program between his first and second years of dental school, and helping to inaugurate a Minnesota chapter of the Student Research Group—and then going on to serve as vice president of that local chapter before heading off to the NIH. Proof, in the eyes of Joel Rudney, that “[Kyle] is not just interested in promoting his own research career but those of other students as well, and in promoting interest in research here at the school in general.”

As part of the summer program, he further distinguished himself by selecting his own mentor, Conrado Aparicio, associate professor in the dental school’s

Minnesota Dental Research Center for Biomaterials and Biomechanics, whose research focus provided a good fit with Holmberg’s academic career as a biomaterial engineering major at Northwestern University. Aparicio’s lab works with biomaterial and tissue engineering, specializing in the development of antimicrobial peptides that can be fused to the surface of dental implants in order to prevent infection and implant failure. Working with Aparicio, Holmberg helped create a process for coating titanium—the material from which implants are fashioned—with peptides. Later, Holmberg would go on to win one of a number of poster contests, some of them based on his work during the summer program.

“Kyle was a complete researcher for the type of lab we run. He understands the clinical challenges we are working on

“I came to the NIH so I could spend a year dedicating myself to developing as a junior scientist before going back and completing my clinical education.”

—KYLE HOLMBERG

along with the challenges we would face handling materials in the lab,” observes Aparicio. “He is the kind of researcher who was always challenging the way we were doing things, always coming up with new ideas that he shared in a straightforward and understandable way.

“He also excelled in two other ways. Kyle is patient and he’s a hard worker.”

That patient work ethic, ability to communicate clearly and persuasively, and intellectual acuity to perceive both the big and small picture of a research project recently earned Holmberg the Wrigley Salivary Research Award from the American Association of Dental Research.

Meanwhile his abstract about the research he conducted at the NIH was accepted as a finalist for the prestigious Hatton Award (junior category) at the American Association for Dental Research (AADR) Johnson & Johnson Healthcare Products competition, which

is open to dental, doctorate, and post-doctorate candidates from the U.S.; there is also an international competition—the International Association for Dental Research/Unilever Competition and Awards—for junior investigators from around the world.

Holmberg developed an extended abstract and presented it for judging at the AADR’s annual meeting in Seattle last March. His abstract *Conditions to Maintain and Expand Murine Submandibular Gland Progenitor Cells* went on to win the Hatton Award. But that was not all. Having won first place in the American division, Holmberg’s abstract automatically became a contender for the International Association for Dental Research award as well.

“I found out at noon the first day of the meeting that I’d taken first place in the American division,” Holmberg recalls. “I presented it again in the afternoon and then received word that I’d taken first place in the overall international competition in the junior division.”

Going Forward

Given what he’s accomplished so far, it’s not surprising that his colleagues and mentors think Kyle Holmberg can write his own career ticket.

“I know he’s interested in keeping up his career as a researcher and in pursuing a clinical career in oral surgery,” says Aparicio. “For some students that might be too much to take on, but I think Kyle has the capacity to do both. I can see him becoming an outstanding oral surgeon and a core faculty member at a major research university. For Kyle, the sky’s the limit.”

Meanwhile, Holmberg himself is taking it a step of time, trying to incorporate all that he’s learned and experienced so far while thinking over the future. He likes seeing patients, he says, and is interested in oral and maxillofacial surgery but sees how research would make him a better clinician—and his clinical experience a better, more focused researcher.

“It’s a day-to-day process of me mulling things over,” he says. “At this point, I’m not sure what my career will look like. But I will continue to rely on the advice of my mentors and my own thinking. There’s still lots of time before I have to make a decision.” ☉



Celebrating a Job Well Done and a Bright Future

A

crowd of more than 1,000 students, their family members and friends, and School of Dentistry faculty and staff celebrated the accomplishments of the University of Minnesota School of Dentistry Class of 2013 at a Commencement Ceremony held May 17 in Mariucci Arena. The event was the 124th time that the school has convened to congratulate and welcome the next generation of dental professionals.

One hundred and sixty-nine graduates were recognized at the event. Included were 107 students who received doctor of dental surgery degrees and 31 who earned master's degrees and advanced education certificates. The school also honored 22 dental hygiene graduates (21 candidates who earned a bachelor's degree and one candidate for a master in dental hygiene degree). Nine dental therapists who graduated in December 2012 also participated in the ceremony; four received bachelor degrees and five were awarded master degrees.

Leading the processional of graduates and more than 50 faculty members and dignitaries into the arena was the School of Dentistry's 2012 Century Club Professor of the Year Mark Herzberg, who carried the University mace. Dean Leon Assael welcomed the guests and served as emcee, and student speakers Saad Zaheer (dental hygiene class of 2013), Jason Allred (dental therapy class of 2013), and George Hauser (doctor of dental surgery class of 2013) shared remarks on behalf of their graduating classes. A reception for graduates and their guests followed the ceremony.

Senior banquets were also held to present awards to graduating students. The doctor of dental surgery graduates celebrated with their families and friends on December 16 at the Hyatt Hotel in downtown Minneapolis. A celebration for graduates of the dental therapy class was held in December 2012. The banquet for graduates of the dental hygiene program was held July 24, 2013, at the TCF Bank Stadium. ☉



2012 Community Report

The charts below represent the unaudited revenue sources and expenses of the School of Dentistry for fiscal year 2012.

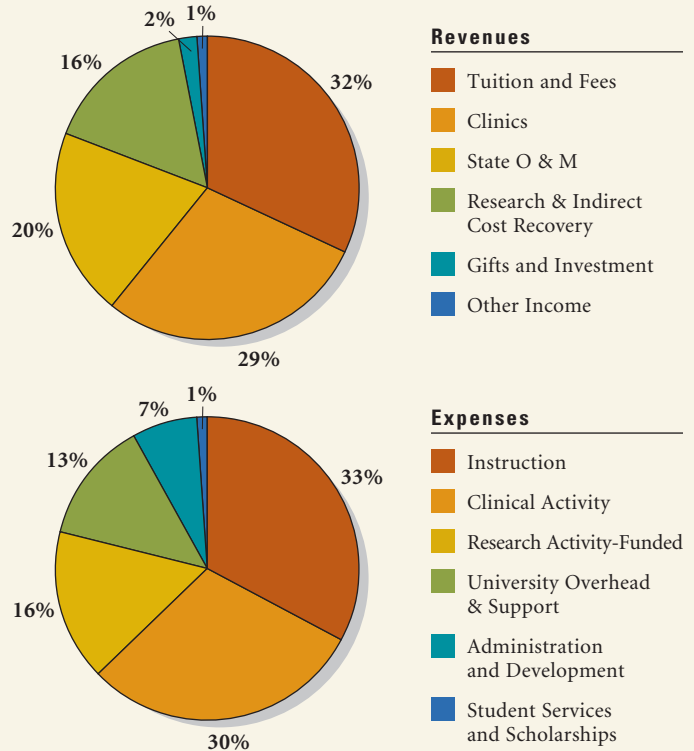
REVENUES & EXPENSES

Revenues (in thousands)

Tuition and Fees	\$	21,601
Clinics	\$	20,065
State Operations & Maintenance (O & M)	\$	14,213
Research & Indirect Cost Recovery	\$	10,995
Gifts and Investment	\$	1,273
Other Income	\$	70
Total	\$	68,217

Expenses (in thousands)

Instruction	\$	21,900
Clinical Activity	\$	20,500
Research Activity-Funded	\$	10,995
University Overhead & Support	\$	9,115
Administration and Development	\$	5,100
Student Services and Scholarships	\$	1,102
Total	\$	66,597



Revenues Notes

Financial Results for the University of Minnesota School of Dentistry for the fiscal year ended June 30, 2012 reflected the success of the faculty, staff and students continuing efforts to better balance available revenues with expenses. Expense reductions continued through employee attrition, position consolidations and compensation adjustments. As a result of expense controls overall revenues exceeded expenses by \$1,600,000 for the fiscal year ended June 30, 2012. Although overall fund balances for the School of Dentistry are still significantly below where they were four years ago, the current year results are a positive step.

Total Revenues for the School of Dentistry increased \$2.3 million for the fiscal year ended June 30, 2012, from \$66.0 million to \$68.3 million. Increases resulted from higher levels of research funding, and higher tuition and fees. The School of Dentistry did not experience a reduction in state funding through the central university in recognition of the unique challenges facing the School of Dentistry, including clinical access issues due to light rail construction and reimbursement challenges.

Clinical and Affiliation Revenues maintained the same level as in FY2011 at \$20.1 million. Clinical activities reflect continued pressures on public program reimbursement levels as well as the effect of the overall economic decline and the access challenges to our clinics presented by the light rail construction.

State Operating and Maintenance continuing funding received by the School of Dentistry (O & M), was held constant by the central University despite decreases for other parts of the University. The unique challenges faced by the School of Dentistry in the clinical area were recognized by the University as well as the efforts that the School has made to reduce expense levels. The School of Dentistry did receive one time allocations to support the search for the new Dean of the School of Dentistry. Continuing state funding as a percentage of overall revenue continues to decline. In absolute dollars funding remained at \$14.2 million (which includes a \$2.0 million allocation to replace MERC funding eliminated by the state legislature). Tuition and fees continued to widen their gap over state funding support. This trend was in evidence across the entire University.

Research Revenues increased due to greater success in applying for and receiving grant funding, both NIH/NIDCR and industry funding. Research revenue increased from \$8.7 million to \$8.9 million.

Indirect Cost Recovery revenues that are connected to direct research revenues increased from \$2.0 million to \$2.1 million.

Tuition and Fee Revenue increased \$1.8 million from \$19.8 million in FY2010 to \$21.6 million in FY2012. The University of Minnesota School of Dentistry has historically targeted the mid-range of publicly supported Midwestern dental schools when determining tuition rates.

Other Income declined by \$.9 million, from \$1.0 million to \$0.1 million. **Gifts and Investment Returns** included in operational results increased by \$.2 million, from \$1.1 million to \$1.3 million due partly to improved equity market returns. These amounts do not include gifts to the School of Dentistry that are managed by the University of Minnesota Foundation that are still invested with the Foundation.

Expenses Notes

Total Expenses for the School of Dentistry increased \$.9 million for the fiscal year ended June 30, 2012, from \$65.7 million to \$66.6 million, primarily due to expenses for the new pediatric clinic, and teaching expenses.

Instructional Expenses increased \$0.3 million, from \$22.7 million to \$23.0 million, primarily related to contractual fringe benefit increases and contractual compensation increases.

Clinical Expenses increased slightly by \$1.0 million, from \$18.1 million to \$19.1 million, primarily due to expenses related to the new pediatric clinic.

Research Expenses increased by \$0.1 million from \$8.7 million to \$8.8 million due to increased research revenue.

Central Allocations decreased \$.3 million from \$9.7 million to \$9.4 million. This category includes the School of Dentistry's pro-rata portion of such University wide expenses as facilities management, libraries, central administration, technology and research administration and compliance.

Administration and Development Expenses decreased \$.2 million, from \$5.2 million to \$5.0 million, primarily related to unfilled positions.

Scholarships and Student Services were constant at \$1.1 million.

Jeff Ogden
Chief Administrative Officer

Mark Herzberg Named Century Club Professor of the Year



PHOTO BY RICHARD ANDERSON

Mark Herzberg, D.D.S., M.S., Ph.D., (Department of Diagnostic and Biological Sciences), was named the University of Minnesota School of Dentistry's Century Club Professor of the Year at the Dean's Recognition Reception on April 26, 2013. The award is the school's highest honor, presented annually to one faculty member in recognition of outstanding service as a teacher and for significant contributions to the education, research and service mission of the school.

Herzberg first became interested in dentistry while in high school when he worked a part-time job shelving books in a medical library. Fascinated by some of the craniofacial publications he saw there, he decided to become not a dentist, but an English major, earning a bachelor's degree in literature and a master's degree in English education, a field of study that would serve him well in years to come. After teaching for a few years, he returned to school to earn a doctor of dental surgery degree from New York University (1973), and both a specialty certificate in

periodontics and a doctorate in oral biology from the State University of New York (NYU) at Buffalo in 1978. It was a summer dental research fellowship while at NYU that helped steer him into dental research.

He joined the University of Minnesota School of Dentistry faculty in May 1978. Over the years, he's served as a primary advisor for six master's degree students and 16 Ph.D. candidates, as well as an advisor for 19 doctor of dental surgery students, nine postdoctoral investigators, and an untold number of summer students who worked in his lab, which has been described as a model of both diversity and interdisciplinary investigations. He is recognized by colleagues as having an insatiable passion for knowledge and an intense intellectual courage, and lauded by students as "the best teacher and mentor ever!"

They credit him for encouraging a "crispness of thought," while his coworkers cite his willingness to share his passion for science, creativity and innovation. Lawrence Tabak, senior investigator at the

National Institute of Dental and Craniofacial Research (NIDCR) and Principal Deputy Director of the National Institutes of Health (NIH), says of Herzberg, "He taught me science, taught me how to deal with some complicated people, and tried very hard to teach me how to prioritize a work/life balance before it was fashionable to do so."

A regular collaborator with other institutions and researchers, Herzberg is always happy to talk about and explore scientific questions with a unique ability to break down complex scientific data in a way that makes it refreshing and comprehensible for all. He's been a member of numerous study sections, scientific review and advisory boards for such organizations as the National Institutes of Health, the National Institute of Dental and Craniofacial Research, the Veterans Administration, American Cancer Society, and the University of Rochester, and a grant reviewer for government agencies in Canada, Sweden and Ireland.

Herzberg's early studies as an English major have also come in handy. He served on several editorial and advisory boards for scientific publications and, for more than ten years, was editor of the *Journal for Dental Research* (1993-2004). During this time he elevated the publication's impact, changing its reputation for the better.

At the School of Dentistry, he directed the Graduate Studies in Oral Biology Program (2005-2010) and the NIH-supported University of Minnesota Dentist-Scientist Award Training Program (1989-2003), and is the director of the MinnCResT Program. Launched in 2002, MinnCResT has brought at least \$15 million to the University to support student and postdoctoral investigators. Herzberg's own NIH research—funded by that agency since 1987—has attracted a total of at least \$3.8 million.

Herzberg's scientific breakthrough occurred when he discovered a link

People

between bacterial-induced platelet aggregation and coronary thrombosis, findings that were announced in the New York Times (1998) and generated nonstop phone calls and television interviews. Today, he investigates the body's immune system—specifically the antimicrobial mechanism of the naturally occurring protein calprotectin in oral epithelial cells that line the mouth and throat—and the role they play in defending mucous membranes against infection. He also explores the role of these mucosal epithelial cells in HIV-1 infection.

In 2010, Herzberg was named associate director of the Clinical and Translational Science Institute (CTSI) and Director of Clinical and Translational Research Services for the Academic Health Center at the University of Minnesota. He joined the CTSI just as it was preparing its third application for an NIH award and worked to prepare the application for submission, an effort that helped lead to the \$32.5 million grant being awarded to the University of Minnesota. During this time he retained his appointment in the dental school and returned to the school fulltime in 2013.

Over the course of his 35 years at the School of Dentistry, Herzberg has been a member of the numerous University committees, including the University Senate, and dental school committees that deal with everything from research to space management and strategic planning to promotion and tenure, and more. He's consulted broadly and is a prolific investigator and writer, with pages and pages of citations for books, book chapters, monographs, abstracts and articles, many of them published in the very same journals he shelved during his high school job in the library.

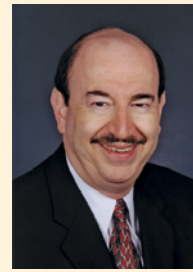
Herzberg is the 46th recipient of the School of Dentistry's Century Club Professor of the Year Award which was started in 1967 by (then) Dean Erwin Schaffer.



James Swift

Awarded:
James Swift
(Developmental/Surgical Sciences-Oral and Maxillofacial Surgery) the prestigious *Research Recognition Award* from the Oral

and Maxillofacial Surgery Foundation (OMSF) at the opening ceremony of the 95th Annual Meeting of the American Association of Oral and Maxillofacial Surgeons in Orlando, October 7-12, 2013. The Foundation's award recognizes individuals who have made outstanding contributions to the specialty through their research, emphasizing the foundation's commitment to foster programs of scientific investigation in oral and maxillofacial surgery. Swift's OMSF-supported research was the springboard for an RO1 award from the National Institute of Dental and Craniofacial Research to study inflammatory mediators and pain. His research interests include temporomandibular joint disease, pathophysiology of third molars, inflammation, pain mediators, neuropeptides and analgesics.



Bashar Bakdash

Appointed:
Bashar Bakdash
(Developmental/Surgical Sciences-Periodontology) to the position of interim associate dean for academic affairs (effective October 26, 2012) and director of the Program for Advanced Standing Students (March 2013).



Revanth Chada

Selected:
Revanth Chada
(D2) as one of eight dental students (from a national pool of candidates) to receive a 2013 Summer Dental Student Award from the National

Institute of Dental and Craniofacial Research. The competitive program is designed to give talented dental students a hands-on research experience and exposure to the latest advances in oral health research. Chada conducted research in the laboratory of Ashok Kulkarni, Ph.D., senior investigator and chief of the Functional Genomics Section, Laboratory of Cell and Developmental Biology.

Updates



PHOTO BY JAYME HALBRITTER

Participants at the School of Dentistry's 2013 Retreat came together in September to celebrate one another and to explore the challenges and opportunities facing the school in the years to come. In separate sessions, discussions focused on the clinical education program, new ideas and future planning, and the strategic development of a new doctor of dental surgery curriculum as it relates to the education, research and service missions of a research-intensive land grant university and Academic Health Center.

Recognized: The University of Minnesota cited the **School of Dentistry Outreach Program** as one of three examples of the University's public engagement initiatives in its successful application to be named an *Innovation and Economic Prosperity University* by the Association of Public Land-Grant Universities. Sixteen universities were selected for the honor. The designation recognizes universities committed to working with public and private sector partners to support economic development through innovation and entrepreneurship, technology transfer, and talent and workforce development, and community development.



A Letter from the President

Trends, Trains and Transformations!

As I look ahead to this year as your Alumni Society president, I am amazed by the explosion of youthful enthusiasm, academic engagement and professional excellence I experience on campus. It is inspiring! There is a virtual evolution occurring everywhere I look. I see new buildings, students settling in, light rail trains will soon be in action on the Avenue, and the atmosphere is electric. I believe this transformational energy is mirrored in our profession. Dentistry is ever evolving. And, the pace of that change is not linear but exponential with changes in the dynamics of dental health care delivery. The University of Minnesota School of Dentistry is leaning forward in establishing new best practices of patient care with initiatives to effectively reach underserved populations. Dental professionals are reaching beyond traditional practice models and are exploring innovative ways to deliver dental health care to our communities. Research partnerships continue to be integral to the success of these trend-setting innovations. Have you been on campus lately? Oh, the transformations you will see!

Transformations are occurring in your Alumni Society as well! Lisa Lewis is the newly appointed CEO of the greater University of Minnesota Alumni Association (UMAA). She brings many years of experience and leadership to the University. School of Dentistry alumna Susan Gross has been appointed our new UMAA Affiliate Council member. Mirroring the UMAA, the School of Dentistry Alumni Society recently adopted a new strategic plan to redirect efforts to better engage you, the alumni of our great dental school. The Alumni Engagement Committee will concentrate on new ways to involve alumni, the Star of the North committee will evaluate how to best engage our alumni who attend that meeting, and the Social Engagement Committee will evaluate how alumni want to become more deeply engaged in the ongoing professional development of our members. We also wish to increase awareness of UMAA membership benefits, and increase alumni participation in the annual Golf Tournament. Watch for more details to join in this fun event!

How do you stay connected in this rapidly evolving world with the immediacy of information sharing? Continuing education continues to be the keystone of dental health care information delivery to all communities in our state and beyond our borders. I invite you to stay connected through Clinical Grand Rounds. Did you know that 26% of attendees now plug in via a live web cast? This is a very exciting trend.

I look forward to a great year filled with Trends, Trains and Transformations! This is your alumni society. With so many opportunities, why wouldn't you become an active member!

Sincerely,

KIM JOHNSON, G.D.H., M.D.H. '79
President, School of Dentistry Alumni Society
www.dentistry.umn.edu/alumni

Time for a Class Reunion?

The Alumni Office can help. Contact Emily Best (612-625-6811 or emilyj@umn.edu) to request current mailing labels for your classmates, promote your reunion via email, and receive Gopher spirit items and prizes for your event.



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ON LINKEDIN AND FACEBOOK.



ALUMNI SOCIETY GOLF CLASSIC

The School of Dentistry Alumni Society's 19th Annual Golf Classic was held on July 26, 2013, at Majestic Oaks Golf Club in Ham Lake. Seventy-five alumni, students and sponsors spent the morning vying for top honors in this best-ball tournament. Many thanks to all of our sponsors, with a special thank you to Accelerated Practice Concepts and Baker Tilly Virchow Krause, LLP, who were *Tournament Sponsors*. Proceeds from the golf tournament will benefit alumni society-supported initiatives, including scholarships, *Give Kids a Smile Day*, student/alumni learning opportunities, and affordable continuing dental education. A very special thank you to this year's co-coordinators Mike Sudit ('85) and Cindy Sundet ('85), without whom we could not have had such a successful tournament.

Congratulations to the following contest winners:

SPECIAL AWARDS:

Men's Long Drive: Steve St. Marie

Women's Long Drive: Linda Assael

Closest to the Pin: Adam Maus

Longest Putt: Scott Sundet

TOP THREE TEAMS:

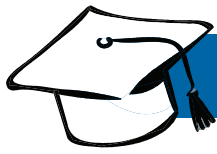
Team 1: Adam Maus Ben Englund (D2)
Steve Ekborn Kevin Liberko (D2)

Team 2: Kent Confeld ('81) Mary Owen ('86)
Fred Bertschinger Adam Erickson (D2)

Team 3: Michael Morse Seth Huiras (D3)
Garrett Clause (D3) Jeremy Lois (D3)



The Winning Foursome



Hats off to you!

Through the generous support of the donors listed below, the Class of 2013 once again received the gift of their caps and gowns in recognition of their graduation from the School of Dentistry. Underwriting the cost of caps and gowns has been a tradition of the School of Dentistry Alumni Society since 1997. Under the direction of alumni society board member Steve Litton ('67), the request for support went out last fall and an overwhelming 207 people and practices responded. On behalf of the alumni society and the Class of 2013, thank you!

Ms. S. Kaye Adams
Dr. Laura Aeschlimann
Dr. William S Akey
Dr. Craig W. and Kristie M. Amundson
Adj. Prof. Jeanne M. Anderson
Dr. Roberta Anderson
Dr. Gary C. Anderson
Dr. Tiara Applequist
Arnold Orthodontics PA
Dr. Wendy Z. Bach
Dr. Bashar Bakdash
Dr. A. Richard Ballin
Dr. Carl L. Bandt
Dr. Joseph and
Ms. Sarah Basile
Ms. Marie A. Baudek
Dr. Robert Beattie
Drs. Jennifer Beaudin and Ipinder Puri
Dr. William S. Becker
Dr. Bruce R. Beier
Drs. Liz Rydell and Stephen Bejarano
Dr. Brad D. Bekkedahl
Dr. Kathleen E. Bellamy
Bemidji Dental Clinic
Dr. Michael A. Bender
Dr. Neal U. Benjamin
Dr. Michael M. Bennett
Dr. Jason O. Berg
Mr. Fred E. Bertschinger
Mr. Jeremy and
Ms. Emily Best

Ms. Christine Blue
Dr. Bernard Borkon
Dr. Michael J. Bussa
Dr. Richard Callender
Dr. Pete Cameron
Dr. Lisa D. Cashin Jernell
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Dr. Don Cuskey
Ms. Carol L. Dahlke
Dr. Steve Danielson
Dr. Andrew De La Garza Jr.
Dr. Ralph DeLong
Dr. David K. Dungey
Ms. Emily U. and
Dr. Scott H. Durand
Dr. Frederick C. Eichmiller
Drs. Laura and Robert Eng
Dr. Jerome A. Erickson
Dr. Steven Erlandson
Dr. James M. Erlandson
Dr. Darlington K. Erowele
Dr. Ettl and Associates
Dr. Raymond W. and
Mrs. Susan C. Evans
Dr. John Evenson and
Dr. Ron Evenson
Family and Cosmetic
Gentle Dentistry
Dr. Gerald L. Fields

Dr. George Fischer
Dr. Brent L. Florine
Dr. Michael and
Mrs. Priscilla Flynn
Dr. Jeffrey J. Fox
Dr. Patrick Foy
Dr. Robert P. Gardoetto
Dr. Raymond and
Mrs. Helen Garland
Mr. Ronald and
Mrs. Rita Garni
Dr. Joseph A. Gibilisco
Dr. Oscar Gomez
Dr. Susan Gross
Dr. Satbir Grover and
Ms. Richa Arora
Dr. Larry Gunner
Dr. and Mrs. Jim Haack
Dr. Yvonne Hanley
Dr. Michael J. Harrison
Dr. Michael J. and
Mrs. Sandra A. Harrison
Dr. Joel M. Hartjes
Dr. Paul W. Hensel
Dr. William Herr
Dr. Arnold and
Mrs. Shirley Hill
Dr. Jeffrey N. and
Kim L. Holmberg
Dr. Kurt R. Hulse
Dr. Heidi and
Mr. Dan Hurley
Dr. Anthony A. Indovina Jr.
Dr. Thomas Inglis
Dr. Robert J. Isaacson

Dr. Ebum-Oluwa S. Isawumi
Dr. Joan Jakubas
Dr. Lee and
Mrs. Mary Jo Jess
Dr. Lisa Johnson
Dr. Dennis Johnson
Kim Johnson
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Dr. and Mrs. Jay M. Jones
Dr. Jennifer T. Kaatz
Dr. Gene S. Kelley
Dr. Kristin H. Kenner
Dr. David Keup
Dr. George and
Mrs. Julie Kinney, Jr.
Dr. Deborah Knaup
Dr. Michael T. Kratz
Dr. Ramesh K. Kuba
Dr. Venetia Laganis
Lake Minnetonka
Orthodontics PA
Dr. Doug and
Anna Mae Lambert
Dr. Timothy R. Langguth
Dr. Brian Larson
Dr. Brent E. and
Cynthia A. Larson
Dr. Matthew E. Larson
Dr. Dietrich R. Lawrenz
Dr. Ignatius K. Lee
Ms. Patricia A. Lenton
Dr. Julie Leshner
Dr. David A. Linde
Dr. Scott Lingle
Dr. David and
Mrs. Betty Lipschultz
Dr. Steve Litton
Dr. Robyn Loewen
Dr. Jeffrey D. Loveless
Dr. John E. Lueth
Dr. Jerry Lyng
Dr. Daniel Sampson and Ms.
Melanie McCall
McClellan Swenson
Dental Office
Dr. Stephen R. McDonnell
Dr. Kenneth D. McDougall
Dr. Tanner J. McKenna

Dr. Tammy Meister
Dr. Carol M. Meyer
Dr. John L. Mike
Dr. James R. Miller and
Dr. Adena F. Borodkin
Dr. Michael Monti
Drs. Randall and
Julie Moseng
Dr. Lisa Murray
Dr. Steven J. and
Mrs. Kathleen Nedrelow
Dr. Douglas Nelson
Dr. James D. Nickman
Dr. George M. and
Margaret L. Noesen
Dr. Frederick Nolting
Dr. Hugh E. Norsted
Dr. John C. Ofstehage
Dr. Richard Oliver
Dr. Kristian Olson
Dr. David M. Oltmans
Drs. Joey and Mark Omlie
Dr. Jeffrey E. O'Neil
Drs. Scott Osborn and
Jerry Conroy
Dr. Thomas Pink
Ms. Maria R. Pintado
Pitzer and Kline Dentistry, PC
Dr. John T. Powers
Dr. Scott A. Rake
Dr. P. Angela Rake
Dr. Jeffrey A. Rohrer
Dr. Michael D. and
Cecilia A. Rohrer
Dr. James Rostvold
Dr. Michael J. Ryhn
Dr. Paul V. Schaus
Dr. Charles J. and
Mrs. Jamie E. Schmidt
Dr. Alan Schneider
Dr. Richard Schoessler
Dr. Herb and
Mrs. Julie Schulte
Dr. Stephen Schwartz
Dr. Robert C. and
Inez L. Schwegler
Dr. Thomas R. and
Julie D. Seidelmann

Dr. Steven A. Selchow
Dr. Douglas Shamp
Dr. Dan Shaw
Dr. Clayton R. Shepard
Dr. Stephen K. Shuman
Dr. Heather Skari
Dr. Thomas W. and
Mrs. Maria Smyth
Dr. Drew F. Spencer
Dr. Cassandra Stacey
Dr. Dawn Stavish
Dr. Gregory Stende
Dr. Christine K. Sullivan
Dr. Kurt M. Sundeen
Dr. William Ten Pas
Dr. Paul H. Thai
Dr. Kyle Tidstrom
Dr. Michael Till
Tronsgard and
Sullivan Dental
Dr. Todd Tsuchiya
Dr. Thomas Turry
Dr. David A. Uppgaard
Dr. Kou B. Vang
Dr. Lori S. Veerman
Dr. Robert M. Voglewede
Dr. Kami Wallner
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Dr. Charles O. Watkin
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Dr. Jeremy Wehrman
Dr. Michael Weisbrod
Mrs. Andrea C. Welch
Bemidji Dental Clinic
Dr. Leslie Wilcox
Dr. Gary L. Williams and Dr.
Gerald A. Wimmer
Dr. George H. Winn
Dr. John C. Withrow
Dr. Steven J. Wolff
Dr. Larry and
Mrs. Elizabeth Wolff
Dr. Jerald and
Mrs. Jennifer Yoneji
Dr. Lisa A. Young
Dr. Barbara Zajicek-Daggett
Dr. James and Sonja Zenk

Award-Winning Alumni

Joan E. Ostapenko: 2012 Distinguished Dental Hygiene Alumna



Joan E. Ostapenko

With a commitment and passion for all that she does, Joan Ostapenko has dedicated herself to the advancement of the dental hygiene profession and the patients it serves. A practicing dental hygienist in specialty and family practice dentistry in Minneapolis and Duluth and an educator at the Lake Superior College Dental Hygiene Program (in Duluth), she has influenced the careers of hundreds of young professionals and done so

with compassion, drive and expertise.

Ostapenko is a two-time graduate of the University of Minnesota, earning a GDH degree in 1975 and a bachelor's degree in 1980. She was awarded a masters of education from the University of Minnesota, Duluth in 1988.

Referred to by her colleagues as a "shining star within the

profession," she was an instructor and key contributor to the dental hygiene program at the University of Minnesota-Duluth (1980-1992). When the program was discontinued, she worked with community dental professionals and staff to create a new program at Duluth Technical College, now Lake Superior College. During her 33-year tenure as an instructor of dental hygiene at both the University of Minnesota-Duluth and Lake Superior College, Ostapenko has mentored more than 600 students.

Ostapenko has also given her time to a number of committees and boards, including the Minnesota Dental Hygienists' Association, the Commission on Dental Accreditation (2006-2012), the ADA National Board Dental Hygiene Examination Test Construction Committee (2009-present), and the American Council on Education (2010-present).

The recipient of several recognitions and awards and active on multiple committees and councils at the local, state and national level, Ostapenko is respected for her clinical expertise, ability to communicate effectively and her understanding of challenging clinical situations, all to the benefit of her students and patients. She continues to serve the dental community with dedication, purpose and great enthusiasm.

Tom Grams: 2012 Distinguished Dental Alumnus



Tom Grams

In a world often enamored of the lives and star power of athletes, actors, and musicians, we often fail to recognize the real heroes who walk among us more quietly. School of Dentistry alumnus Tom Grams was one such person. A tireless volunteer on behalf of thousands in Third World countries who had no access to dental care, he was among 10 members of a 20-member volunteer medical aid team killed in Afghanistan on August 5, 2010. Grams was 51 years old. He had practiced dentistry in Durango, Colorado, but retired in 2006 to work as a volunteer, traveling on his own to remote areas or connecting with nonprofit organizations.

Grams began his volunteer work with Global Dental Relief in 2001. Katy Shaw, program administrator, says Grams once hiked for three days to transport his equipment to a Himalayan monastery where he treated patients in a windowless room with a light bulb for illumination. He was the lead dentist on 28 trips her organization made to the region. Shaw estimated Grams served 24,000 children. But he had a special connection with Afghanistan. He ran a teaching and dental clinic in rural Afghanistan for Michigan-based Kids 4 Afghan Kids and made seven or eight trips to the area where he gained the respect and friendship of everyone. Grams worked at the village medical clinic, helped mentor a local dentist, and had started training some village students as dental assistants. Committed to the welfare of the entire village, he also organized and funded a solar project to get lighting in the schools and clinics, and tried to implement other cottage industries.

He worked for his last year to help establish a dental clinic in Kabul. His last minute decision to join a medical aid team sponsored by International Assistance Mission (IAM) on its visit to a remote village in Afghanistan ended tragically. The Taliban claimed credit for the attack, asserting that the workers were religious missionaries. Both the faith-based IAM and Grams' twin brother, Tim, who lives in Anchorage, Alaska, dispute that claim. Says Tim Grams, "My brother knew and respected the laws of the country. His only interest was to care for patients."

Class Notes

Please submit brief notices about milestone events and activities to: U of M School of Dentistry, Alumni Relations (attn: Emily Best), 515 Delaware St. S.E., 15-136 Moos Tower, Minneapolis, MN 55455 or emilyj@umn.edu.

Dentistry is published two times a year. Deadlines for submission are: Spring issue: January 1; Fall issue: July 1. Please note: *Dentistry* cannot publish birth and marriage announcements.

1939

Constance W. Kuehn (D.H.), Albuquerque, NM, died on March 21, 2013. She taught dental hygiene in the Minneapolis Public School system and at The Ohio State University, then married and moved to St. Paul and then to Edina. She and her husband spent a good portion of their 55 years at Lake Sylvia in the Annandale area. Kuehn served on the Edina School Board, was a docent at the Minneapolis Institute of Arts, and a volunteer at Hennepin County Medical Center.

1943

Renaud Otis Leon (D.D.S.) Anaheim, Calif., died in April 2013 at the age of 97. After graduation he married Maxine Chin Leon and practiced in the Panama Canal Zone. In 1951 he moved his practice to California where he and his wife raised three children.

1944

Leroy Johnson (D.D.S.), Robbinsdale, Minn., died in June 2013 at age 95. Known to his family and friends as a 'blue ribbon' husband, father and grandfather, and a popular dentist, Johnson was raised in Atwater, Minn., graduated from St. Olaf College and the University of Minnesota School of Dentistry, and was a U.S. Air Force lieutenant colonel who served in Korea, Japan, Minnesota, Alaska and Texas.

1948

Lorraine Larson Fladland (D.H.), St. Cloud, Minn., died May 9, 2013 at age 87. She practiced dental hygiene for more than 30 years; for most of her married life, she lived in Forest Lake, then moved to Becker and later St. Cloud.

1951

Lloyd "Jake" Jacobson (D.D.S.), Kenyon, Minn., died December 25, 2012, at age 89. He was a navigator in the U.S. Army Air Force (1943-45) on B-24 bombers, flying the 'hump' between India to China and on bombing missions. While over China, he had three emergency parachute bailouts, the last when the plane was just 500 feet from crashing. He practiced general dentistry in Kenyon until his retirement in 1991. Well known and well liked, Jacobson was president of the

Remembering Our Faculty

We share this news of the passing of a former faculty member. Obituaries of faculty who are alumni of the University of Minnesota School of Dentistry are included in Class Notes.

Gregory R. Germaine (Ph.D.), Stillwater, Minn., died January 18, 2013 at age 71. A man of endless curiosity, humor and energy, he was a two-time alumnus of the University of Minnesota (with M.S. and Ph.D. degrees in microbiology/biochemistry), and an NIH-funded scientist whose tenure as a School of Dentistry faculty member spanned three decades. He conducted postdoctoral studies in New South Wales, Australia from 1970-72 and returned to Minnesota and the School of Dentistry as a Lasby Visiting Professor in 1973. He was appointed assistant professor in the microbiology program (1973), given a primary appointment in the Division of Oral Biology in 1976, and appointed professor in 1983. As a professor of microbiology, he shared his passion for science



Gregory R. Germaine

with decades of students, while never losing his motivation to learn new things himself. His contributions to the body of scientific knowledge about the antimicrobial properties of salivary constituents and how fluoride inhibits caries-producing *Streptococcus mutans* advanced the scientific knowledge of our time. He chaired the Department of Oral Sciences for ten years and also served as interim associate dean for research. In 1991 he received the dental school's highest honor, the Century Club Professor of the Year Award.

Southeastern District Dental Society (1976-77), Minnesota Dental Association treasurer (1980-86), and a Fellow of the International College of Dentists (1971). He held numerous community leadership roles (on the school board, the area development association and United Fund Drive, his church and the Lions Club), and was a post commander of the American Legion, an advisory board member for the Rochester



Lloyd Jacobson

Community College Dental Assisting Program, finance chair for Representative Steve Sviggum, and a delegate to the Republican State Convention. The recipient of the *Outstanding Alumni Award* from St. Olaf College in 1973, he was also named Kenyon's Outstanding Citizen (1986) and a WCCO Good Neighbor. In 1987, he received the School of Dentistry's Ambert B. Hall Award for his exceptional contributions to his profession, community, and country.

James F. Bussen (D.D.S.), St. Louis Park, Minn., passed away in June 2013 at age 88. He served in the U.S. Army infantry in WWII and fought in the Battle of the Bulge. After the war, he graduated from dental school and practiced dentistry in Richfield for 40 years. He was a past president of the Richfield Optimist and Rotary Clubs and of the Minneapolis District Dental Society (1980-1), chaired the Archbishop Annual Catholic

Appeal in 1976, and was knighted for the Equestrian Order of the Holy Sepulchre of Jerusalem in 1978. He was also a member of the Knights of Columbus, the VFW, and the American Legion.



Anthony Romano

1954

Anthony Romano (D.D.S.), Pine City, Minn., passed away May 14, 2013. A Pine City general practitioner, he began teaching part-time at the School of Dentistry in periodontics (1954). He

was appointed a clinical assistant professor (1964) and an associate professor in 1971; he chaired the operative division that same year. He was promoted to professor in 1974 and stepped down from that role in 1977, shifting his attention to private practice while continuing to teach part-time into 1988.

Romano had an illustrious career in dental practice, organized dentistry and dental education. He also was known for his wide range of interests, which included archeology, geology, petrology, ornithology, wild flowers, mycology, trees, and wood-working. He was an accomplished welder, cook, fisherman, hunter and gardener, who successfully grafted branches to fruit trees, constructed his own cabin, and used his macro-photography for the identification of new species of mushrooms. It's said he was also a 'butcher, a baker and a candlestick maker.'

1959

Larry W. Carrow (D.D.S.), Golden Valley, Minn., died October 25, 2012 at age 77. After dental school, he served as a captain in the Medical Corps in the U.S. Army, stationed in Germany, and then returned home to practice dentistry in downtown Minneapolis for more than 50 years.

1963

Kurt King (D.D.S.), Edina, Minn., retired from dental practice in August after 44 years of pediatric dental practice. He was a former chief of Children's Dentistry at the University of Minnesota Hospitals and the dental department of Children's Hospitals and Clinics. He also served as president of the Minnesota Academy of Pediatric Dentistry, the Minnesota Society of Dentistry for Children, the National Academy of Dentistry for the Handicapped, and is also a former member of the Craniofacial Team at Children's Hospitals & Clinics.

1974

Timothy Durtsche (D.D.S.), LaCrosse, Wisc., was sworn in as president of the Wisconsin Dental Association at the organization's 142nd House of Delegates meeting on November 17, 2012. Durtsche earned both his doctor of dental surgery and a certificate in oral surgery at the University of Minnesota.

1976

Mike Miskovich (D.D.S.), Grand Rapids, Minn., was installed as first-term trustee for the Northeastern District Dental Society at the Minnesota Dental Association's House of Delegates meeting in September.

1978

Daniel Rose (D.D.S.), Pillager, Minn., was installed as president-elect of the Minnesota Dental Association at the association's House of Delegates meeting in September.

1980

Laura Eng (D.D.S.), St. Paul, Minn., received the Minnesota Dental Association's (MDA) 2013 *Outstanding Service Award* in April. Throughout her career, Eng's involvement in organized dentistry has focused on membership initiatives, including expanding benefits to members, advancing the role of women dentists, and mentoring dental students. She served on the ADA Council on Membership, chaired both the MDA and the St. Paul District Dental Society (SPDDS) Membership Committees and the MDA Women's Dentist Subcommittee, and was the state chair for the ADA Tripartite Grassroots Membership Initiative. In addition, she served on the SPDDS Executive Council, Foundation Committee and Honors Committee, and was SPDDS president in 2005. She received the dental society's *Outstanding Service Award* in 2011. Eng has also volunteered for many years at the Union Gospel Mission, *Give Kids a Smile Day*, Donated Dental Services, and

Mission of Mercy, and was instrumental in helping to bring the Medical Teams International dental van to West St. Paul to serve low income patients. She is currently a member of the School of Dentistry Alumni Society Board.

1981

Gary A. Bolmgren (D.D.S.), Edina, Minn., was installed as secretary/treasurer of the Minneapolis District Dental Society on April 11. Bolmgren received a certificate and master's degree in orthodontics from Washington University in St. Louis.

1982

Peter Cannon (D.D.S.), St. Paul, Minn., was installed as first vice president of the Minnesota Dental Association at the association's House of Delegates meeting in September.

1983

Michael Perpich (D.D.S.), St. Louis Park, Minn., was installed as president of the Minnesota Dental Association at the association's House of Delegates meeting in September.

1984

Susan Block (D.D.S.), Prior Lake, Minn., was installed as president of the Minneapolis District Dental Society on April 11, 2013.

1985

Kevin Dens (D.D.S.), Baxter, Minn., was named second vice president of the Minnesota Dental Association at the association's House of Delegates meeting in September.

1986

Douglas J. McNaught (D.D.S.), Long Lake, Minn., was installed as president-elect of the Minneapolis District Dental Society on April 11.

Donna J. Stenberg (D.D.S.), St. Paul, Minn., received the 2013 St. Paul District Dental Society (SPDDS) *Outstanding Service Award* on January 18, 2013. Stenberg served as SPDDS president (2001), as a delegate to the MDA House of Delegates, and as a member of the society's executive council. She chaired the midwinter and ethics committees, served six years on the Peer Review Committee, was district trustee to the Minnesota Dental Association, is a member of the St. Paul Speaker's Bureau, and serves on the ADA Council on Dental Education and Licensure. A four-time School of Dentistry alumna, she received a bachelor's degree in dental hygiene, a doctor of dental surgery degree, and a certificate and M.S. in orthodontics.

1987

Paul Krebsbach (D.D.S.), Ann Arbor, Mich., was elected vice president of the American Association for Dental Research. He took office in March 2013. Krebsbach is currently

professor and chair of the Department of Biologic and Materials Sciences at the University of Michigan School of Dentistry. Krebsbach earned a certificate in periodontology and a Ph.D. from the University of Connecticut Health Center; he was a senior staff fellow at the National Institutes of Health (1993-96).

Mark Edward Himrich (D.D.S.), Custer, S.D., died June 3, 2013, at age 51. The Black Hills were his favorite place on earth. He had a passion for fishing, hunting, skiing. A father of three, Himrich suffered a stroke a year ago, an experience that deepened his faith life and spirituality. He lived everyday as if it were a gift, his network of friendships always growing. He had a great love of life as well as for his family, friends, and his patients. His infectious sense of humor will always be remembered as well as his remarkable ability for story-telling.

1992

Venetia Laganis (D.D.S.), Maple Grove, Minn., was installed as vice president of the Minneapolis District Dental Society on March 11.

1998

Jeanni Foss was installed as first-term trustee of the West Central District Dental Society at the Minnesota Dental Association's House of Delegates meeting in September.

2001

Shawna K. Ikola (D.D.S.), Osceola, Wisc., died suddenly at her home on October 15, 2012. A native of Deer River, Minn., she practiced dentistry in Mora and Kasson, Minn., and then moved to Centuria, Wisc., where she practiced for about eight years and was employed at the time of her death. Loved by all who knew her, she enjoyed scuba diving, collecting antiques, going to auctions and craft shows, cooking, traveling, shopping and reading, and gathering agates on the beaches of Lake Superior. The Class of 2001 has donated a plaque in Shawna's memory to the University of Minnesota Pediatric Dental Clinic Made Possible by Delta Dental of Minnesota.

2003

Kimberly Rauk (D.D.S.), Alexandria, Minn., received the Minnesota Dental Association's (MDA) 2013 *New Dentist Leadership Award* in April. Rauk has been a West Central District Dental Society delegate to the MDA House of Delegates and an alternate delegate to the ADA House of Delegates. She served on the MDA Dental Education and New Dentist committees, was a member of the Midwest Dental Benefits Board, and has promoted membership and participation in MDA events with dental students and new dentists. She's encouraged student interest in dental careers at high school career fairs and mentorship events, and is an active volunteer at Caring Hands Dental Clinic in Alexandria, *Give Kids a Smile Day*, and at area schools during Children's Dental Health Month.

CDE Courses

Discount Available

School of Dentistry Alumni Society members are eligible for discounted continuing education. Members may receive a 10 percent discount for "lecture only" courses offered through the University of Minnesota School of Dentistry. (This discount applies to School of Dentistry Alumni Society members only and not their employees.)

JANUARY 2014

Advanced Composite Restorations—Postgraduate Program in Contemporary & Esthetic Dentistry: Level II
January 10-12, 2014

Dental Implants & Esthetic Dentistry—Postgraduate Program in Contemporary & Esthetic Dentistry: Level III
January 16-19, 2014 &
March 6-8, 2014

What's New in Dentistry
January 24, 2014

Study Abroad 2014: Guanacaste, Costa Rica
January 24-31, 2014

Contemporary Perspectives in Endodontics
January 31, 2014

FEBRUARY 2014

Clinical Grand Rounds for the Dental Team: Diet & Oral Health
February 6, 2014

19th Annual Ski & Learn: Steamboat Spring, Colorado
February 6-8, 2014

Interpreting Cone Beam CT Images: An Interactive Workshop
February 7, 2014

Advanced Patient Treatment: Direct & Indirect Restorations—Postgraduate Program in Contemporary & Esthetic Dentistry: Level II
February 14-16, 2014

Winter Dental Hygiene Seminar: Career Advancement Strategies & Esthetic Considerations in Dental Hygiene Practice
February 21, 2014

Mastering Digital Full-mouth & Panoramic Radiographic Technique: A Hands-on Program
February 22, 2014

Removal of Bond Materials with Rotary Instrumentation: A Hands-on Program
February 27, 2014

10th Annual Dean's Day: Dental Research Updates from the U of M
February 28, 2014

MARCH 2014

Clinical Grand Rounds for the Dental Team: Endodontics
March 6, 2014

Simulated Implant Placement: A Hands-on Program Carlsbad, California
March 6-8, 2014

Caring for Adults with Special Needs: An Update for the Dental Team
March 7, 2014

Miniresidency in Pediatric Dentistry
March 14-16, 2014

Growing Your Practice with Sports Dentistry
March 21, 2014

Athletic Mouthguard Fabrication in Your Dental Office: A Hands-on Workshop
March 22, 2014

Nonsurgical Therapies in Periodontal Disease Management: Local and Systemic Impact
March 28, 2014

APRIL 2014

Orthodontic & Periodontal Esthetics—Postgraduate Program in Contemporary & Esthetic Dentistry: Level II
April 2-5, 2014

Clinical Grand Rounds for the Dental Team: Dental Pharmacology
April 3, 2014

Spring Recordkeeping Workshop for the Dental Team
April 10, 2014

MAY 2014

Protocols in Panoramic Radiographic Interpretation
May 2, 2014

Dental Hygiene Refresher: A Hands-on Program
May 5-9, 2014

Spring Core Competency Day for the Dental Team
May 9, 2014

Local Anesthesia: A Hands-on Training Program
May 12-14, 2014

Local Anesthesia Refresher: A Hands-on Review
May 30, 2014

For more information

For more information, to register for classes and/or to request disability accommodations, contact:

Continuing Dental Education

6-406 Moos HS Tower
515 Delaware Street SE
University of Minnesota
Minneapolis, MN 55455

Phone:

(612) 625-1418
or (800) 685-1418

Fax:

(612) 624-8159

Website:

www.dentalce.umn.edu

EventsCalendar

JANUARY 2014

January 18 U of M Day in Florida

12:00 p.m. to 5:45 p.m.
The Inn on 5th
699 5th Ave. S.
Naples, Fla

Keynote Speaker:

Dr. Eric Kaler, President
University of Minnesota

For more information:
www.MinnesotaAlumni.org/
MinnecollegeFL14

FEBRUARY 2014

February 22 U of M Day in Arizona

1:30 p.m. to 6:00 p.m.
Hyatt Regency
Scottsdale Resort and Spa
at Gainey Ranch
7500 E. Doubletree Ranch Rd.
Scottsdale, Ariz.

Keynote Speaker:

Dr. Eric Kaler, President
University of Minnesota

For more information:
www.MinnesotaAlumni.org/
MinnecollegeAZ14

February 28 9th Annual Dean's Day: Dental Research Updates from the U of M

8:30 a.m. to 4:30 p.m.
Great Hall
Coffman Memorial
Student Union
University of Minnesota
Minneapolis Campus
Minneapolis, Minn.

For more information:
(612) 625-1418
(800) 685-1418
www.dentalce.umn.edu

February 26–March 1 American Student Dental Association Annual Session (for ASDA members only)

Anaheim, Calif.

For annual session information:
American Student
Dental Association
(800) 621-8099

MARCH 2014

March 19–22 American Association for Dental Research

Charlotte, N.C.

Reception

To be announced

For information, contact:
Jane Franklin
(612) 626-5731

APRIL 2014

April 6 24th Annual Daniel E. Waite Lecture

For information, contact:
Jan Jackson
(612) 624-9959
Jacksonj@umn.edu

April 17 School of Dentistry Alumni Society Board Meeting

5:30 p.m.

April 24–26 Star of the North Meeting

Saint Paul RiverCentre
Saint Paul, Minn.

For more information:
(612) 767-8400
(800) 950-3368

April 25 Dental Hygiene Alumnae Luncheon

April 25–29
American Association
of Orthodontists
Ernest N. Morial
Convention Center
New Orleans, LA

Alumni Reception:
April 26
6:30 p.m. to 8:00 p.m.
New Orleans
Convention Center

For annual session information:
(800) 424-2841

April 26 University of Minnesota Alumni Association Annual Celebration

April 30–May 3 American Association of Endodontists Annual Session

Gaylord National Resort
and Convention Center

Alumni Reception

To be announced

For annual session information:
(312) 266-7255

MAY 2014

May 1–2 Montana Dental Association Annual Meeting

Hilton Garden Inn
Missoula, Mont.

For annual session information:
(406) 443-2061

May 16 School of Dentistry Graduation

10:00 a.m.
Northrop Auditorium
Minneapolis, Minn.

May 15–17 South Dakota Dental Association Annual Session

Sheraton and
Convention Center
Sioux Falls, S.D.

Alumni Reception:
To be announced

For annual meeting
information:
(605) 224-9133

May 22–25 American Academy of Pediatric Dentistry Annual Session

Hynes Convention Center
Boston, Mass.

Alumni Reception:
To be announced

For annual session information:
(312) 337-2169

For more information

Except where noted,
you can obtain further
information on the events
listed and/or request
disability accommodations
by contacting:

Emily Best
Alumni Relations
(612) 625-6811
emilyj@umn.edu

To stay informed about
events at the University
of Minnesota, see the
Twin Cities Campus
Event Calendar at
www.events.tc.umn.edu

2012 Donors

Dear Friends,

Since my arrival a year ago, I have experienced the distinct pleasure that comes from interacting with many alumni and friends who support the school with their time and talents, often in a volunteer capacity to help to keep the school strong.

And it's probably no surprise to you that many of these same volunteers and friends are also generous financial contributors. They are included in the list below of individuals and organizations that made gifts to the school during calendar year 2012. We are grateful to each of you for giving some of your treasures to help move the School forward.

Volunteer leadership and your generosity have supported the University of Minnesota Pediatric Dental Clinic Made Possible by Delta Dental of Minnesota, where faculty and pediatric dentistry resident students serve children in nearby Amplatz Children's Hospital and also kids from the community and outstate Minnesota.

Many former residents of the graduate and advanced programs in prosthodontics responded generously to the leadership of two of their colleagues and made gifts to remodel and upgrade the conference room and residents' office in honor of the only two previous directors of the program, Drs. Richard Goodkind and James Holtan.

Private philanthropic support will continue to grow in importance as an essential financial resource to help nurture our ideas and discoveries and support our efforts to continue to be a national leader while serving the students and residents of Minnesota, the region and the world.

Sincerely,



LEON A. ASSAEL, D.M.D.

Dean

Professor of Oral and Maxillofacial Surgery

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Leonard E. Boeder
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We strive for accuracy when preparing these lists and apologize for any errors that may appear. We invite you to notify the Development Office at (612) 625-1657 to make any corrections.

Donors to the School of Dentistry in 2012

This list is based on outright gifts, pledge payments and deferred pledge payments.

* **Presidents Club Members**
The Presidents Club recognizes the University's most generous benefactors.

+ **Dean's Circle Members**
Membership is determined by an annual gift or pledge of \$1,000 or more to the Dentistry Fund for Achievement.

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