

UNIVERSITY OF MINNESOTA

# Dentistry

FOR ALUMNI OF THE SCHOOL OF DENTISTRY

FALL 2015

## For the Love of Kids

At the Pediatric Dental Clinic  
Made Possible by Delta Dental of  
Minnesota, disciplines merge to  
care for the whole child.

Inside

Alumni Profile ■ Interprofessional Dental Care for Kids ■ Graduation Photos



PHOTO BY TIM RUMMELHOFF

# from the Dean

## Dear Colleagues,

One of the most exciting things about being in higher education and dental education is that we get to prepare for the future through the education, research and service we provide in one of America's great universities. Our ability to successfully *imagine* that future is one of the essential tasks that will define the scope and relevance of our programs.

So, I was doing some imagining on a quiet Sunday afternoon: about our children, our state, and our alumni. And this issue of *Dentistry* magazine helped me to do that.

**Imagine a world where children come first.** All of us need a strong, healthy, educated and happy next generation to make the world better. Who will plant the crops, find new knowledge, and become the leaders of our future world? It will be our children. Good oral health and a healthy smile, free of discomfort, beautiful and functional in every way, is truly an essential key to their future achievements.

Good oral health is the legacy that we hope to bring to the people of Minnesota through our exceptional educational programs in clinical pediatric dentistry, pediatric dental research, and service to our pediatric patients. If we can gain a lifetime of good oral health for our children through a healthy start, it will reap benefits for us all. I believe that every Gopher will be proud of the amazing impact of the University of Minnesota Pediatric Dental Clinic Made Possible by Delta Dental of Minnesota. Under the leadership of Residency Program Director Dr. Jeff Karp, a new cadre of leaders in pediatric dentistry is being educated in a state-of-the-art setting, linked to the Masonic Children's Hospital, one of America's premier pediatric tertiary care facilities. Read in this issue about the boy with special needs and how he benefitted from the compassion and expertise of our pediatric dental

team. As the grandparent of a boy like Landon, I am particularly grateful that we educate experts like our pediatric dental team at the University of Minnesota.

**Imagine a world where we build a healthy society in our rural and urban areas.** While our work in the Twin Cities is essential, a new grant at Rice Memorial Hospital in Willmar, Minnesota, has Dr. Paul Schulz, director of the dental school's Division of Outreach, developing a program for the examination and assessment of one year old toddlers for their first dental examination. Dr. Naty Lopez, assistant dean for admissions and diversity, is helping to address the access to care challenges for children and adults through our admissions process. In September, 70 Minnesotans joined our first-year class, 31 of whom are from rural Minnesota. In addition, Dr. Lopez is developing a program, in concert with the Minnesota Dental Association, to educate more of our students in rural, underserved communities.

**Imagine a world where our alumni go forward to achieve great things that make the world better.** Our *Alumni Service Award* this year goes to Dr. Michael Zakula for his work on developing a strong bond with the Iron Range and all of rural Minnesota. He is a tireless advocate for bringing dentists to rural Minnesota and has led loan forgiveness efforts by the Iron Range community, the state and Delta Dental of Minnesota Foundation. After sitting in legislative offices with Dr. Zakula, I've found his commitment to advancing oral health exemplary of what it means to be a University of Minnesota-educated dentist.

Read in this issue, too, of the remarkable accomplishments of Dr. Dianne Rekow who is, perhaps, one of our most versatile alumni since Alfred Owre. She will receive the University's prestigious *Outstanding Achievement Award*. From a Minnesota farm to leadership of one of the most respected dental schools of our time, Dr. Rekow's odyssey inspires me to recognize that we can never know too much, or try too hard or accomplish too much in life, that there are ever-greater and more meaningful challenges with every step. I am sure that there are students in the School of Dentistry today who will be similarly inspired, and imagine, and have achievements in the coming decades that will make Dr. Zakula and Dr. Rekow proud.

I hope you will enjoy this issue of *Dentistry*. If you, like me, have a tendency to doze off while reading in the warm sun of a Sunday afternoon, perhaps we can dream of the same great future together.

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

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PHOTO COURTESY OF LAURA SHEPHARD, KING'S COLLEGE LONDON



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PHOTO BY SCOTT STREBLE

UNIVERSITY OF MINNESOTA

School of Dentistry

Driven to Discover<sup>SM</sup>

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.

*Dentistry* is published two times a year for the alumni and friends of the University of Minnesota School of Dentistry. We welcome suggestions and feedback. Please contact *Dentistry* magazine, School of Dentistry, University of Minnesota, 15-136A Moos Tower, 515 Delaware Street SE, Minneapolis, MN 55455 or email kante008@umn.edu. For more information about the School of Dentistry and its programs, refer to the Web site at [www.dentistry.umn.edu](http://www.dentistry.umn.edu).

This publication/material is available in alternative formats upon request. Direct requests to Claudia Kanter, School of Dentistry, Department of Marketing and Communications, kante008@umn.edu, 612-625-0402.

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# News Bites

## Honoring Outstanding Achievement

The University of Minnesota has a long-standing tradition of recognizing the accomplishments of alumni and others who exemplify the best of scholarly and public life. This year, School of Dentistry alumni received the University's top honors.

In October, six-time University of Minnesota graduate E. Dianne Rekow, D.D.S., Ph.D., received the University's highest recognition, the prestigious



Dianne Rekow



Michael Zakula

*Outstanding Achievement Award.* The award is conferred on those who have attained unusual distinction in their chosen field and for demonstrating outstanding achievement and leadership on a community, state, national or international level.

Well-known for her pioneering work with computer-assisted design and manufacturing (CAD/CAM) technology, Rekow has explored the synergy between technology and materials science in support of human health and wellness, with work that spans the professions of dentistry; orthodontics; dental education; biomedical engineering; mechanical engineering; physics; and math. She is a talented educator, visionary leader and accomplished scientist, as well as an international authority on the performance of new materials and products for use in esthetic and restorative dentistry.

Additionally, she holds the dual distinction of being the first American to lead a major United Kingdom dental school and the first woman to serve as dean of the Dental Institute at King's College in London, Europe's most prestigious dental school. She has been dean of the Dental Institute at King's College since 2012. Dr. Rekow accepted her award at an event on October 15, 2015. *Read more about Dr. Rekow on page 4.*

Also recognized at the event was Michael Zakula, D.D.S., who received the University of Minnesota *Alumni Service Award.*

A long-time resident of Hibbing, Minn., Zakula was instrumental in identifying an opportunity for the dental school to partner with the Hibbing Community College (HCC), a relationship that resulted in an expanded teaching facility for HCC dental assisting students and a clinic that is now the site of one of the most popular clinical outreach experiences for School of Dentistry students.

Since 2002, more than 1,000 University dental and dental hygiene students have spent time at the Hibbing clinic, getting hands-on experience in patient care and learning about life and dental practice in Greater Minnesota.

The availability of comprehensive dental services at the clinic also expanded access to dental care for residents in underserved communities throughout northeastern Minnesota.

Dr. Zakula also co-created the *Michael J. Till Dental Scholarship Program.* Most recently, he worked through Delta Dental of Minnesota Foundation to create *Dedicated to Minnesota Dentists*, a program that provides loan repayments for dentists who commit to practicing general dentistry full-time for five years in a designated dental health professions shortage area.

## Alfred Owre's Legacy Continues with Relative's Visit from Norway

The School of Dentistry's past, present and future came together on June 26 when Moos Tower hosted a special visitor from Halden, Norway.

Inspired by a recent article in *Dentistry* magazine about Dr. Alfred Owre, dean of the School of Dentistry in the early 1900s, Fridtjov Owre, a great-great-great nephew of the influential dean, paid Moos Tower a special visit.

Fridtjov, along with his wife and son, toured the school's Minnesota Dental Research Center for Biomaterials and Biomechanics, Comprehensive Care Clinic, and the 3M and Advanced Simulation Clinics, which were of particular interest.

"I have worked with simulators—in particular with nuclear reactor simulators and oil field simulators—during my time at the Institute for Energy Technology (an international research foundation based in Norway)," Fridtjov Owre said prior to his visit. "We use simulators to investigate how nuclear operators react in very difficult situations and test whether various new technologies can help them in making good decisions...I would be very interested to visit your simulator lab and see how it (is) used in training young dentists."

Alfred Owre is one of the nation's most innovative dental educators.



Fridtjov Owre with portrait of Alfred Owre, School of Dentistry dean 1905-27.

He was an early advocate for science-based education, community outreach and social responsibility, as well as an early adopter of a holistic approach to health and wellness. Under his leadership, Minnesota started the second dental school-based education program for dental hygienists in the country. He also furthered the idea that dentistry should be part of a well-rounded university education benefiting all of society.

The school's current focus on evidence-based dentistry, team-based care, community outreach, and interprofessional education, as well as its diversified research program, are part of Alfred Owre's legacy.

## Dental School Awarded \$1.7M to Enhance Access to Care in Greater Minnesota

The University of Minnesota School of Dentistry has been awarded a \$1.7M federal grant for a new program to help address oral health access-to-care disparities in rural Minnesota.

The grant, awarded by the Health Resources and Services Administration (U.S. Department of Health), will fund a five-year program called the Minnesota Collaborative Rural Oral Health Project (MN-CROHP). The project will create a new model of care that brings dental and dental therapy students together with medical and other healthcare students in rural practice settings to provide integrated health care services and team-based oral health care.

The project will target three Minnesota regions: Northeast (Aitkin, Cass, Crow Wing, and Itasca counties); West Central (Big Stone, Chippewa, Kandiyohi, Lac qui Parle, Stevens, Swift and Traverse counties); and Southeast (Fillmore, Freeborn, and Winona counties).

A primary objective of MN-CROHP is to match dental and dental therapy students with dentist mentors in smaller communities. "By partnering with local dentists, our students will immerse themselves in the community, and get an idea of what it means to work in a rural practice," says Naty Lopez, Ph.D., principal investigator and assistant dean of admissions and diversity at the School of Dentistry. "We hope that this will help sustain an interest in rural dentistry, and that more students will consider practicing in these and other underserved regions after graduation."

The project will also: 1) Assess the oral health needs of K-12 students through free oral screenings; 2) Collaborate with the University's Rural Physician Associate Program (RPAP) to integrate oral health into rural health care systems; and 3) Expand capabilities of existing rural practices by adding dental therapists and/or dentistry students to the care team.

"Every Minnesotan deserves to have access to dental care, says Leon Assael, D.M.D., dean of the School of Dentistry. "As we improve oral health, we also improve the overall health of our state.

MN-CROHP is still in the planning stages. Lopez will finalize the program strategies and details in the coming months, alongside program collaborators and School of Dentistry co-investigators Karl Self, D.D.S., M.B.A., director of the Division of Dental Therapy, and Karin Quick, D.D.S., Ph.D., director of the Division of Dental Public Health. They hope to see the program implemented next summer.

The project is a collaboration between the Minnesota School of Dentistry, the Minnesota Department of Health, the University of Minnesota Rural Physician Associate Program, the Minnesota Dental Association, and various K-12 schools in rural communities.

# Firmly Rooted But Reaching For the Sky

Six-time graduate of the University of Minnesota Dr. Dianne Rekow is a research pioneer and global thought leader whose contributions in industry, dentistry, academia, and scientific inquiry earned her the University's highest honor.

BY TERRI PETERSON SMITH



When Dianne Rekow was growing up on a farm in Shafer, Minnesota, no one told her that a girl

shouldn't love math, aspire to be an engineer or dream big. No one told her that she couldn't become a corporate research exec or academic leader, a research pioneer, or a global thought leader. So, she did all of that, and much more.

"I was the oldest kid of four," she says. "On a farm, boy or girl, you work. If you can reach the pedals, you can drive the tractor." That simple attitude has taken her far beyond the farm.

Rekow is a six-time graduate of the University of Minnesota with two bachelor's degrees—in physics and mathematics, and in mechanical engineering—a master's degree in mechanical engineering, a doctor of dental surgery degree, a specialty certificate in orthodontics, and a Ph.D. in biomedical engineering. Oh, and she has an MBA from the University of St. Thomas, too.

After working in industry, she held academic positions at several American universities, and was president of both the International Association for Dental Research and the American Association for Dental Research. Since 2012, she has

served as dean of the Dental Institute at King's College in London, the most prestigious dental school in Europe. She's also the first American to lead a major dental school in the United Kingdom.

For these and many other accomplishments, Dianne Rekow has been awarded the University of Minnesota's *Outstanding Achievement Award*, the University's highest recognition. Says School of Dentistry Dean Leon Assael, D.M.D., "Dr. Rekow has pioneered new career

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**"She was investigating and researching this concept of 3D digital imaging long before digital dentistry was even imagined."**

— RALPH DELONG, PH.D., D.D.S., M.S.

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paths—in industry, dentistry, academia and scientific investigation—along the way attaining unusual distinction in her professions and demonstrating outstanding achievement and leadership on a community, state, national and international level."

He says, "Her work and passion for the health sciences have led to a career of remarkable accomplishments and leader-

ship in the community, industry, higher education and worldwide. We are proud to call her one of our own."

## The Root of the Matter

Like her alma mater, Rekow is 'driven to discover' and she traces her scientific and academic roots back to those early days on the farm. When she was a precocious five-year-old, she announced to her mother that she wanted to earn a Ph.D. "Education was highly valued in my family," she says. "My grandmother went to the University of Minnesota and, with four kids and a farm to run, my dad drove 100 miles a day to complete his college degree at the University."

The farm environment also contributed to her innate sense of curiosity. "Scientific inquiry and problem solving are intrinsic to farm life," she says.

In 1966, after earning bachelor's degrees in physics and mathematics, Rekow joined FMC Corporation where her responsibilities focused on training materials for major Naval ordnance systems and new business proposals for the Department of Defense. She moved to Medtronic in 1975 and worked as program manager and staff engineer on projects related to the company's pacemakers.

Eventually, though, industry felt too intellectually confining. "Industry has all

Dianne Rekow ►



the toys,” she says, “but you have to follow the corporate perspective and I wanted more freedom.” So, she decided on a new career in dentistry, which like engineering, she says, is about problem solving and manipulation of materials. “And helping people,” she adds, “which is satisfying.” She returned to graduate school in engineering, while also taking additional biology and chemistry courses, with the goal of applying to dental school.

“I first met Dianne when she was a dental student and I was a bench instructor,” says Ralph DeLong, Ph.D., D.D.S., M.S., School of Dentistry professor in the Department of Restorative Sciences and on faculty at the dental school’s Minnesota Dental Research Center for Biomaterials and Biomechanics. “It was clear early on that she was an outstanding student with a keen desire to know and master every element of every dental procedure, and then to know how the procedure came to be.”

The two met again in the 1980s when Rekow was working on her idea of building a scanner that could create 3D digital images. Her goal was to create digital models to replace the customary orthodontic plaster models. “She was investigating and researching this concept of 3D digital imaging long before digital dentistry was even imagined,” says DeLong.

Her colleagues and mentors at the University of Minnesota supplied her with more of the kind of encouragement she received on the family farm. The strong multidisciplinary approach to education at the University allowed her to combine a D.D.S. with a Ph.D. in engineering and to further develop the creative style with which she tackles scientific challenges. “They said, ‘You’re crazy, but okay,’” she says. “I was incredibly lucky to go to the University of Minnesota. It has great strengths.”

One person who fostered her University career was her engineering Ph.D. advisor and mentor Arthur Erdman, now director of the Medical Devices Center and an award-winning professor in the Department of Mechanical Engineering. He says her skills range from basic science to applied engineering to an intimate knowledge of anatomy and physiology. “It is so unusual to have these kinds of domain knowledge in just one individual. But,” he adds, “there’s not an ounce of arrogance about her.” ☺

While in dental school, Rekow began her Ph.D. research, which sought to use CAD/CAM technology to determine the required 3D geometry of the occlusal surfaces of opposing teeth and then employ milling technology to carve out the restoration. Says Erdman, “In the early 1980s this was a revolutionary concept, and Dianne led the development of this technique during her thesis. The pre-commercial system developed by Dianne and later by the larger University of

### Bringing It All Together

Rekow applies the same skill set in her role as an academic leader. “Having a background that crosses disciplines helps translate concepts between team members, moving us to common understanding faster, and in doing so, more can be accomplished and discovered,” she says.

At the University of Minnesota, she taught in both mechanical engineering and orthodontics, advancing to associate faculty in oral biology and assistant professor

this grant. “At the time, it was unusual for NIDR to award program grants for restorative dentistry research.” That they chose to do so, he said, was testimony to the quality of Dianne’s research. “The grant showed her superb management skills, coordinating the efforts of scientists along the east coast from multiple organizations to solve the problems associated with ceramic restorations. Her work,” he says, “established her as an internationally known authority on the development



Dean Dianne Rekow with student researchers (L) and at the Department of Craniofacial Development & Stem Cell Biology at King’s College Dental Institute. Internationally recognized for its ground-breaking research in dental/orofacial biology, the department celebrated its 20th anniversary in 2013.

Minnesota team became known as the ‘Minnesota System.’ By the early 1990s, she shared five patent applications with University faculty that were filed and awarded under the University’s name, and there was a great deal of activity towards commercialization of this system.

“Unfortunately, our imagination exceeded the technology at the time, particularly the computational power in the late 1970s and early 1980s. This type of technology has only more recently become available in dental offices,” says Erdman.

Rekow excelled at a time and in fields where there were few women. Erdman explains her success, “She has both right and left brain gifts. There’s no task she wouldn’t take on in analytical and applied research. She just had a good attitude, worked hard, just kept going at it. She’s unusual in that she’s both a self-starter and a team player. She walks the walk.”

and instructor in the dental school’s Division of Orthodontics. She also was on faculty at the University of Maryland, and at the University of Medicine and

**“Having a background that crosses disciplines helps translate concepts between team members, moving us to common understanding faster, and in doing so, more can be accomplished and discovered.”**

— DIANNE REKOW, D.D.S., PH.D.

Dentistry of New Jersey. While at Maryland, she was awarded a National Institute of Dental Research (NIDR) grant to develop all-ceramic crowns. DeLong served on the external review board of

and performance of materials for esthetic and restorative dentistry.

In 2002, she joined the New York University faculty where she eventually became senior vice provost for engineering and technology and provost of Polytechnic Institute, which was in the process of becoming the Engineering School of NYU. As part of her responsibilities, she helped create alignment between the two universities. While at NYU, she also held positions as special advisor to the provost and president for engineering, as well as three positions in the College of Dentistry (as chair of the Department of Basic Science and Craniofacial Biology, director of translational research, and professor of orthodontics.)

Not surprisingly, she’s shaking things up at King’s College, bringing a new-world viewpoint that sees possibilities for innovation. “The attitude in the U.S. is that we can do anything,” she says. “We’re kind of the teenagers of the world.”



One of the first changes she made was to dismantle traditional clinical academic departments and replace them with faculty research groups. Under the new system, all faculty members participate in research groups with others who share their interests, regardless of academic track or scholarly credentials. She has also added more women to the faculty.

Says Ellie Heidari, senior specialist clinical teacher at King's College Dental Institute, "She supports hard working



Graduation at Southwark Cathedral.

PHOTOS COURTESY OF LAURA SHEPHERD, KING'S COLLEGE LONDON

members of staff to achieve their dreams and goals by making her team believe in themselves and feel that everything is achievable. She makes time to listen carefully to people who wish to express their concerns. Her approachable manner has enabled junior staff to seek her advice both in their personal and professional lives."

She says, "I think that the dean knew once she started her education in dentistry what path she wanted to take to change people's lives (both colleagues and patients). She quickly breaks down barriers to clear the path for new thinking and ensures that opportunities are created not only for herself and women, but for all members of her team.

Maria Fidela de Lima Navarro got to know Rekow when she was the president of the International Association for Dental Research and Rekow was her successor. Navarro is professor of operative dentistry at the Bauru School of Dentistry at the

University of São Paulo, Brazil. She's also served as dean of that dental school and as Secretary General of the university. She says, "I first met Dianne Rekow when she visited our School of Dentistry and I was the first female dean. I immediately became a fan of hers. Among Dianne's innumerable positive characteristics, one

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**"Leadership is always about people and their concerns—how you motivate them, what kind of role model you provide. It's not about what you say, but what you do, that matters."**

— DIANNE REKOW, D.D.S., PH.D.

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stands out: she is impeccable with words. She addresses her thoughts in such a delicate way that even when she disagrees with others, they do not feel offended. When addressing a conference, she opens her beautiful eyes and explains her ideas in such a nice and attractive way that she convinces the audience."

"It doesn't matter where you are," Rekow concludes. "Leadership is always about people and their concerns—how you motivate them, what kind of role model you provide. It's not about what you say, but what you do, that matters."

### Leaning In

As a woman pursuing a science career in the '70s and '80s, Rekow was leaning in long before Facebook COO Sheryl Sandberg coined the phrase in her best-selling book on women and work. As a pioneering woman with such a long list of accomplishments, one might expect Rekow to be single-mindedly focused on academic pursuits. But, to the contrary, colleagues report that she's a lot of fun and loves to regale them with stories from her travels. Says Heidari, "I think having a rich personal life makes her an open minded person who empathizes with other people and understands how people's previous life experiences can enrich their character."

Rekow has a husband who is a biophysicist, three sons, and five grand-

children. "I worked the whole time the children were small," she says. Her sons were ski racers and she prides herself on being able to head down the hill with a coffee pot to pour coffee for her fellow spectators without embarrassing her teenage children.

When her sons were around 11 years old, she started taking them with her to international professional conferences, making a point of combining grown-up activities with things the kids wanted to do. She says, "Should I have stayed home? They say 'We wouldn't have had those opportunities.' And when they didn't go with me, that was special, too. They said, 'We get to go to McDonald's when you're gone.'"

For women, she says, "You need to be committed. Do it. Never say 'I wish I would have...' and you need to know that your family will be okay if you have a profession. It's not always easy, especially when you have sick kids, so you also need to have a sense of humor. But, for example, clinical dentistry is very flexible for a variety of family situations. There's extraordinary freedom."

Rekow's attitude of limitless possibility has, of course, inspired other women. Says, Maria Fidela, "I never told her, but her words and above all her example as a determined woman and an admirable manager inspired me and I became the first professor from my school to be appointed Secretary General of the University of São Paulo."

Now, in London, Rekow enjoys her work and her environment. "It's very green," she says. "There are flowers in all the windows and hanging from street lamps and I haven't shoveled snow in two years." She also revels in the history and architecture there. For example, graduation for King's College Dental Institute takes place in Southwark Cathedral near London Bridge; a place of worship has stood on that site for more than a thousand years.

What's next? Though she's firmly rooted in her new locale, one senses that for Rekow, there are still limitless possibilities to explore. She doesn't plan to obtain any more degrees even though at 996 credits, her sons tease her about not making it an even 1,000.

Still, she says, "You can never stop learning." ☉



## Celebrating a Job Well Done and a Bright Future

**T**he School of Dentistry celebrated the accomplishments of its graduating classes at its 126th Commencement Ceremony held May 10, 2015, in Northrop Auditorium. Included among the 174 graduates were 108 new doctors of dental surgery, 31 recipients of master's degrees and/or advanced education certificates, nine dental therapists, and 26 dental hygienists (23 who received bachelor of science degrees and three who earned a master of dental hygiene degree.)

Ms Jill Stoltenberg, School of Dentistry 2014 *Century Club Professor of the Year*, carried the University mace as she led the processional of graduates, faculty and dignitaries into the auditorium. Dean Leon Assael emceed the event, and graduates Sophie Bove (dental hygiene), Karen Bohnen (dental therapy) Michael W.R. Anderson (doctor of dental surgery) and Georgios Kotsakis (advanced education programs) shared remarks on behalf of their fellow students. The Honorable Peggy E. Lucas, University of Minnesota Regent, conferred the degrees. ☺

PHOTOS BY LIFETOUGH





Northrop Auditorium erupted in prolonged applause and classmates shouted 'Dr. Mom' as Kathleen Mattison accepted her diploma. Forty years after receiving her GDH degree (and later a bachelor of science in dental hygiene) from the University of Minnesota, Mattison graduated from dental school at age 60.

Mattison worked for 37 years as a dental hygienist in the office of Dr. Robert Hobday ('72). "She always took a great interest in our patients," he said, noting that Mattison also peppered him with questions about his diagnosis and treatment plans. "I've told her for maybe 25 years that she should go to dental school," said Hobday. For Mattison, a mother of three, other things always seemed to take priority... until now. Hobday, Mattison's husband and three adult children were all on-hand to see her receive her diploma.

The newly minted dentist and Forest Lake resident stepped out of dental school and into dental practice. Dr. Kathleen Mattison is a dentist at Scenic Rivers Health Services in Cook, Minn., a rural community clinic about an hour south of the Canadian border, where she completed one of her dental school outreach rotations. Mattison was so well liked—and she so liked the patients and clinic—that she accepted an employment offer there saying, "There's a great need for dentists in smaller communities."



Kathleen Mattison 'Dr. Mom' accepts her diploma.



# For the Love of Kids

At the Pediatric Dental Clinic Made Possible by Delta Dental of Minnesota, disciplines merge to care for the whole child.

BY TERRI PETERSON SMITH

**I**n Mark Haddon's runaway best-selling novel *The Curious Incident of the Dog in the Night-Time*, the author introduces us to the world of a child whose senses don't work right. He has behavior typical of those with autism spectrum disorders. He doesn't like new places or things out of order. He hates being touched and cannot stand the color yellow.

The boy is quick to take in the sights, sounds, smells and tastes of everyday life, but he takes them in all at once in a rush that can be both overwhelming and threatening.

As an example, the youngster describes a bucolic landscape, noting "...there are 19 cows in the field, 15 of which are black and white and four of which are brown and white." He sees the plastic bag in the hedge, three different types of grass and two colors of flowers, and a distant village with 31 houses and a church. He sees 31 other things that he didn't write down. And if someone asked him to describe the cows, he'd ask "which one?" So much sensory input can be tiring. He concludes, "And when I am in a new place and there are lots of people there it is even harder because people are

not like cows and flowers and grass and they can talk to you and do things you don't expect, so you have to notice everything and also things that might happen as well...."

Imagine what it would be like for a child with autism to go to the dentist.

For seven-year-old Landon, a patient at the University of Minnesota Pediatric Dental Clinic Made Possible by Delta Dental of Minnesota, the experience prompts that onslaught of stimulation that overwhelms his capacity to process it. He's out of his routine. He encounters strange people, lights, sounds, smells and sensations. If that's not enough, someone wants to poke around inside of his mouth! The result: blow-ups, meltdowns, and overall



resistance. Each tiny step that is part of a typical appointment—sitting in the reception room, climbing into the dental chair, ‘opening wide,’ and even turning on the operatory lights—requires repeated attempts, gentle discussion and calm problem-solving to help him understand what’s going on and how to cooperate.

It’s a dental visit for which few other clinics would have the time, patience or experience to handle. That makes Landon

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**“The clinic is for all children, including well children and those with special health care needs.”**

— JEFF KARP, D.M.D., M.S.  
CLINIC DIRECTOR

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a typical patient at the state’s largest hospital-based children’s dental clinic, where the most medically complex cases and most challenging developmental and behavioral issues are routine. Says John Collier, D.D.S., (’73), pediatric dentist and adjunct associate professor of developmental and surgical sciences in the School of Dentistry, “We handle these types of cases all the time.”

All these challenges made dental care seem impossible until earlier this year when Landon made his first visit to the clinic on the recommendation of his aunt, who is a nurse anesthetist at University of Minnesota Masonic Children’s Hospital.

“I thought he’d have to

◀ 2015 program graduate  
Nick Baylon, D.D.S.

be sedated,” says his mother Sarah (who is herself a nurse), “but it wasn’t necessary. We saw Dr. Michele Olson and she was unbelievably patient. She was even able to take x-rays. I was flabbergasted.” Equally important, Olson observed that Landon’s teeth showed signs of acid reflux, for which his doctor has prescribed medication. “Maybe he’ll eat better if his mouth feels better,” says Sarah.

Now, Landon, his mom, and dad, are in the reception room ready for his second visit to the clinic. His parents have prepared him for the visit, which comforts him. He also loves watching the elevator and shouts out about it. “The clinic is calm,” says Sarah. “There aren’t five million things to do, which really scrambles his radar. Everyone’s friendly and laid back. You can tell they’re used to these things.”

As the name implies, the clinic was made possible by a \$3.5 million gift from Delta Dental of Minnesota Foundation. Additional support came from 3M Foundation and other generous donors. A joint venture between the School of Dentistry and University of Minnesota Physicians (UMP), the clinic is now headquarters for the state’s only pediatric dentistry residency program. It’s situated just across the street from the University’s Masonic (formerly Amplatz) Children’s Hospital and a tunnel under the street connects the two buildings. The clinic serves as the nexus where the School of Dentistry and its many resources integrate with pediatric medical, nursing, and allied health teams at Masonic Children’s Hospital to care for children with an array of medical, physical, developmental, behavioral, and emotional challenges that make treatment in other dental offices and clinics too difficult or dangerous. It’s a place where pediatric dentistry and pediatric medicine integrate into a health home.

According to Clinic Director Jeff Karp, D.M.D., M.S., “The clinic is for all children, including well children and those with special health care needs.”

Karp was recruited to the University shortly after the clinic opened in April

2012 from the University of Rochester where he was director of ambulatory dental services and the residency program for pediatric dentistry at the Eastman Institute for Oral Health.

Karp says, “We’re adept at caring for young patients—usually from birth to 18 years old—who are medically complex due to organ system abnormalities, cleft and craniofacial deformities, cancer treatment, behavioral challenges, or because of physical, developmental and intellectual disabilities.” Patients here may require many dental procedures to be done with office-based sedation or under general anesthesia in the hospital’s operating room. The clinic also strives to care for children who are insured by medical assistance, and has even developed special programs to serve uninsured children in



need of dental care.

With this special blend of expertise and focus on community service, it’s no wonder the clinic is fast becoming a regional, national, and international resource for children from all walks of life.

### **Trust, Technology and Stickers**

Entering the colorful clinic, you can see why families repeatedly describe it as ‘comforting,’ ‘homey,’ and ‘loving.’ From the greeting at the front desk to short stays in the reception room, TVs over the dental chairs playing movies like *Cars*, and giraffes on the wall, the atmosphere is decidedly kid-friendly. “It’s not like ☹

going to some giant clinic; it's like going home," says the mother of one young patient. "We've only been to the clinic four times but they know us. They even know what kind of stickers my daughter likes."

Pediatric dental residents add their own special touches. For example, second-year resident Alegra Midgley's name tag reads "Dr. Alegra, Incredible Dentist" and on occasion, a giant remote controlled helium-filled fish has floated down the hall. The conversation tends to be about sports and jokes and stories. "We take things very seriously," says Karp, "but we want the kids to know we're on their side."

These all seem like nice extras to most people, but especially for children with complex and often heart-rending issues, those extra touches mean everything. According to Jamie Lohr, M.D., pediatric cardiologist at Masonic Children's Hospital and associate professor in the University of Minnesota Medical School, physical proximity and closer working relationships between the new dental clinic and the hospital boost physicians' and parents' confidence that these dental professionals have extensive knowledge of the

dental and medical sides of each child's case. "The new clinic is fantastic," says Lohr. "It's so approachable and parents know that their child won't be the first blue child they've seen, the first child with one pumping chamber in their heart, or they won't be the only parent in the clinic whose child has no hair."

Listen to parents talk about the clinic and you'll find their sense of relief is almost palpable. The clinic and the hospital share the same electronic medical record, so dentists can communicate with the child's physicians. They can read each other's notes and make recommendations seamlessly, eliminating the need for parents to explain everything over and over again.

"It's amazing how well both staffs work together," says the father of one young patient who was in flight from Alexandria, Minnesota, to Minneapolis Children's Hospital three hours after he was born. Ten years later, father and son now make the trip from Alexandria to the pediatric dental clinic once or twice a month. After multiple surgeries, the youngster has an appliance to help cover his soft palate so he can breathe and speak properly. "We're making progress," says his dad.

## The Pediatric Ecosystem

The new 10,000-foot clinic is designed to accommodate patients with a range of individual special health care needs, incorporating wide doors for hospital gurneys, dental chairs that easily move out of the way if care must be provided in a wheelchair, and patient lifts to transfer children from wheelchairs to treatment chairs if necessary. There are private treatment rooms used for sedation dentistry and to create a soothing environment for

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**"It's so approachable and parents know that their child won't be the first blue child they've seen, the first child with one pumping chamber in their heart, or they won't be the only parent in the clinic whose child has no hair."**

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— JAMIE LOHR, M.D.  
PEDIATRIC CARDIOLOGIST  
MASONIC CHILDREN'S HOSPITAL

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children with dental anxiety, autism spectrum disorders, and mood and mental health conditions. Monitors in the hallway can display patients' heart rates and oxygen levels, and cameras in the treatment rooms allow faculty to observe several

## PAIRING WITH PORTICO HEALTHNET FOR UNDERSERVED KIDS

Breaking down barriers to access is an important goal at the University of Minnesota Pediatric Dental Clinic Made Possible by Delta Dental of Minnesota. With support from the School of Dentistry, the clinic partnered with Portico Healthnet, a St. Paul nonprofit health and human services organization, to provide care for children under 13 years of age whose families are classified as living at or below 275 percent of the federal poverty level and without eligibility for dental insurance of any kind. Portico provides 'care navigation' to connect clients to the clinic, a service that includes appointment scheduling, completion of a dental urgency questionnaire, transportation scheduling, and addresses any number of other barriers that could prevent patients from getting to the clinic.

The questionnaire assures that patient appointments will not need to be rescheduled due to unexpected medical reasons. The clinic schedules patients when slots open, typically 24-48 hours in advance which encourages accountability by the families that know another appointment may not become available. As a result, 97 percent of Portico patients come for their scheduled appointments, which is a much higher rate than other patient populations. The system works so well that Clinic Director Jeff Karp, D.M.D., M.S., presented a poster about it at the 2014 American Academy of Pediatrics National Convention and Exhibition and believes the approach may have value for other types of dental practices looking to help uninsured families.

patients at once as well as review and critique dentist/patient interactions for teaching purposes.

All the state-of-the-art bells and whistles of the clinic, though, may not be as important as the tunnel that literally and symbolically connects the pediatric dental clinic to the broader constellation of health care services available to children at the University of Minnesota Masonic Children's Hospital. That connection has become crucial because the scope of pediatric dentistry addressed by the dental residency program has changed dramatically to serve children with severe medical issues. Says Karp, "In today's world, medical advances have lengthened kids' life expectancies but they're living with a blend of complex issues and side effects of their treatment."

Jamie Lohr, explains, "There's no dental training in medical school but dental care is critical. For example, children who are receiving artificial heart valves, stents and other devices are at a high risk for infection, so they need to have really good oral health because infections in the mouth may travel to the valve through the bloodstream." As a result, physicians routinely refer children to the pediatric dental clinic before surgery. Jeff Karp says that to address the changing patient needs, dentists and physicians must join forces to create what he calls an 'ecosystem' of pediatric care with a view of the whole child.

Says Soraya Beiraghi, D.D.S., M.S.D., M.S., M.S.D., professor and director of the dental school's Division of Pediatric Dentistry, "With this clinic, we're able to create a new kind of team, one that has an integrated, multidisciplinary, and inter-professional approach to children's care."

The School of Dentistry has had a pediatric dental clinic for decades where pre- and post-doctoral students received training together. So it took some time for both school and clinic practitioners to adjust when the Advanced Education Program in Pediatric Dentistry left the Moos Tower mothership and established a home across the river. Beiraghi, who herself sees patients in the new clinic and hospital, says it was a challenge to break the routine of running to another floor of Moos Tower for a quick consult with, for example, oral surgery staff. "Now we must compensate for that with advance

planning." Yet, she says, close proximity, integration with physician specialists and increased visibility associated with the new location, more than compensates for these changes. "Physicians at the hospital didn't know we existed before. Now we're helping to care for their patients and connecting their medical residents with our residents, and growing new relationships every day."



One way to develop this pediatric ecosystem is for pediatric health care providers to work together. Dental and medical residents join on rotations with the Pediatric Hospital Medicine Service at Masonic Children's Hospital, which gives pediatric dentistry residents a chance to experience medical care for children first-hand. They are assigned one or two patients per day and are plugged into the role of student physician, under the watchful eye of pediatric medical residents and pediatric hospitalists.

With support from faculty, pediatric dental residents also do dental procedures in the hospital operating room and work with the hospital's anesthesia team and surgical nurses, as they will do in their future practices. They provide on-call coverage for the hospital's Emergency Department, too, where they care for patients with dental injuries and tooth-related infections who present there after hours and on weekends. Patients are often transferred from other metropolitan children's hospitals and hospitals in Greater Minnesota, as well, because those hospitals don't have the luxury of immediate access to pediatric dentists.

At the same time, medical residents learn about the role their dental counterparts play in children's health. Recent program graduate Nick Baylon, D.D.S., says, "There are a lot of highly-trained

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(L to R) Madeline Goettl, D.D.S., 2015 program graduate, and Clinical Assistant Professor Vladimir Leon-Salazar, D.D.S., M.S.D.

pediatric specialists who are not aware of what we do, why we want to fix baby teeth, how that affects permanent teeth, the social stigma, and how oral health affects the health of the rest of the body."

### Success by Any Measure

When it initially separated from the pediatric dentistry clinic in Moos Tower, the graduate clinic drew patients from the School of Dentistry's patient base. Since then, both clinics have grown, refer patients to one another, and have substantially expanded the capacity of both clinics to serve pediatric patients.

At first, the new clinic had open appointments every day of the week. Now it schedules upwards of 50-60 patients per day and the schedule is frequently booked out for months. There were more than 8,000 patient-visits in 2014, with at least 12 languages spoken—Arabic to Vietnamese, with a little Oromo and ☺

American Sign Language in between—and the clinic has become a center for complex pediatric dentistry cases attracting children from 14 states and, via the Minnesota International Medicine program, children from as far away as Saudi Arabia, Qatar, Kuwait, and the United Arab Emirates. These international patients have included numerous children with epidermolysis bullosa, a rare genetic disorder of the skin and connective tissues, and many who have needed dental clearance before solid organ or bone marrow transplantation, with the cost of care sponsored by those governments.

The clinic's patient base has grown through word of mouth, parent recommendations, and referrals from community clinics and general and pediatric dental offices. Pediatricians are also significant sources of referrals, which

attests to their greater familiarity with the clinic and its services. Moreover, pediatricians increasingly view dentists at the clinic as part of their team. For example, it seemed natural for the Children's Heart Center to confer with Karp for help in developing a pre-surgery dental checklist for pediatric cardiologists caring for children with congenital heart defects.

Says Jeff Karp, "We're actually giving meaning to all the promises that were

publicized when the clinic first opened. We're excited about helping many more kids." More faculty dentists have been hired and the clinic now has a robust pediatric orthodontic service, too, under the tutelage of board certified orthodontist and School of Dentistry Clinical Assistant Professor Vladimir Leon-Salazar, D.D.S., M.S.D. As the clinic matures, Karp's goal is to refine the way the clinic and the Division of Pediatric Dentistry's multi-disciplinary faculty work together to optimize the assignment of patients between the Moos Tower and advanced education program clinics, depending on the patient needs. "We need to find a balance and zero-in on specialties for which the clinic will be known as a center of excellence, the place to go," says Karp.

Perhaps the best measure of the clinic's success will be the impact its residents make after they leave the clinic. The program attracts highly qualified and experienced dentists from the

U.S. and Canada and routinely accepts six residents each year. The program focuses on five specific areas: clinical pediatric dentistry; growth and development; pediatric medicine and team care; evidence-based clinical practice; and advocacy.

The reasons these residents seek further training are downright inspiring.

For example, Michele Olson, D.D.S., worked previously as a dentist in the Community-University Health Care Center in Minneapolis. Her own child

with Down syndrome inspired her to specialize in work with children who have medical, developmental, and intellectual special needs. So, while completing the pediatric dental residency, she is also tackling a Master in Public Health degree and is completing the University's Leadership Education in Neurodevelopmental & Related Disabilities (LEND) fellowship so she can conduct research and advocate for children with special health care needs.

James Lipon, D.D.S., a graduate of the University of Alberta School of Dentistry,

worked for 13 years as a general dentist in Canada before pursuing dental anesthesiology and now pediatric dentistry specialty training. He will join a small community of dual trained providers serving children with extensive dental needs in Canada. Alegra Midgley, D.M.D., began her career as a dental hygienist, then graduated from Temple University School of Dentistry

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**"With this clinic, we're able to create a new kind of team, one that has an integrated, multidisciplinary, and interprofessional approach to children's care."**

— **SORAYA BEIRAGHI, D.D.S., M.S.D.,  
M.S., M.S.D., DIRECTOR, DIVISION  
OF PEDIATRIC DENTISTRY,  
UNIVERSITY OF MINNESOTA**

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and completed a general practice residency program before entering private practice in Texas. In addition to her practice, she plans to pursue new and effective ways to teach children about dental health outside the dental clinic. Nick Baylon followed his 2010 dental degree at the University of Minnesota with a general practice residency in the Bronx, New York, before returning to Minnesota for the pediatric dentistry residency. He graduated in 2015 and joined a Twin Cities pediatric dentistry practice with his father Richard Baylon, D.D.S. ('74) who is an adjunct faculty member in the dental school's Division of Pediatric Dentistry. He also plans to be a dental resource for physicians at a local hospital.

Another 2015 graduate, Michael Steinmetz, D.D.S. ('13), from Browerville, Minnesota, population 800, joined a St. Cloud practice with five locations across central Minnesota. So, rather than travel to the Twin Cities, children from central and northern Minnesota who have complex dental and medical issues will be able to receive care much closer to home. He says "The demand far exceeds the number of dentists who provide that type of care."

This new generation of pediatric oral health professionals will continue to build the pediatric ecosystem well beyond the doors of the clinic. That means children like Landon and thousands of others will be able to lead healthier, happier lives. ☉





## Research Publications



Sven-Ulrik Gorr

We recognize our colleagues for their contributions to the body of knowledge that forms the foundation for our profession.

The faculty, staff, students and research fellows of the School of Dentistry published 103 articles in scientific and professional journals between July 1, 2014 and June 30, 2015. These articles report on investigations—in areas of basic, clinical, and social

and behavioral sciences, and public health—by collaborating authors from all departments within the dental school and a variety of academic and scientific institutions. This breadth

of scholarship is a testament to the vitality of the School of Dentistry's research programs and the extensive collaborations occurring within the school and with scientists around the world.

The publication list is organized by department and division. The publications, co-authored by collaborators in several divisions, are acknowledged in each participating division.

Sincerely,

SVEN-ULRIK GORR, PH.D.  
Associate Dean for Research

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### DEPARTMENT OF PRIMARY DENTAL CARE

#### Division of Comprehensive Care

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Quick, K.K. 2014. A humanistic environment for dental schools: what are dental students experiencing? *J Dent Educ.* 78:1629-1635.

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## Congratulations Paper of the Year Award Winners

The following individuals received a 2015 School of Dentistry Paper of the Year Award at the 11th Annual Dental Research Updates program held February 27 in Coffman Memorial Union. The award recognizes contributions made to the breadth of scholarship at the School of Dentistry in the areas of basic and clinical sciences, and in social/behavioral sciences and public health.

### Basic Sciences

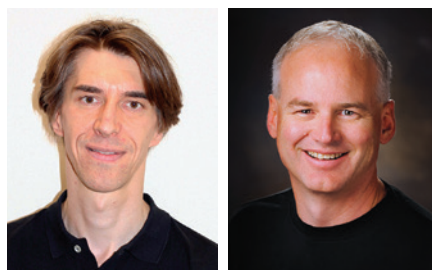


Conrado Aparicio Eric D. Jensen

Presented to **Conrado Aparicio and Eric D. Jensen** for their paper with co-authors Y. Li, Chen X., Ribeiro, Holmberg, K.V., and J.C. Rodriguez-Cabello:

“Hybrid nanotopographic surfaces obtained by biometric mineralization of statherin-inspired elastin-like recombinamers.” Published in *Advanced Healthcare Materials*, 3(10): 1638-1647.

### Clinical Sciences



Thorsten Grünheid Brent Larson

Presented to **Thorsten Grünheid and Brent Larson** for their paper with co-authors N.L. DeFelippe, A. Wey, P.R. Gaillard.

“Accuracy, reproducibility and time efficiency of dental measurements using different technologies.” Published in the *American Journal of Orthodontics and Dentofacial Orthopedics* 145(2): 157-64.

### Social and Behavioral Science & Public Health



Priscilla Flynn

Presented to **Priscilla Flynn** for her paper with co-authors Call, K.T., Pintor, J.K. and N. Elmi.

“The projected effect of the affordable care act on dental care for adults Medicaid enrollees. Published in the *Journal of Health Care for the Poor and Underserved*, 25 (1 Suppl.): 79-94.

## DEPARTMENT OF RESTORATIVE SCIENCES

### Division of Biomaterials

Barsness, S.A., W.R. Bowles, A. Fok, S.B. McClanahan, and S.P. Harris. 2015. An anatomical investigation of the mandibular second molar using micro-computed tomography. *Surg Radiol Anat.* 37:267-272.

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Lau, A., J. Li, Y.C. Heo, and A. Fok. 2015. A study of polymerization shrinkage kinetics using digital image correlation. *Dent Mater.* 31:391-398.

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Li, Y., C. Carrera, R. Chen, J. Li, Y. Chen, P. Lenton, J.D. Rudney, R.S. Jones, C. Aparicio, and A. Fok. 2015. Fatigue failure of dentin-composite disks subjected to cyclic diametral compression. *Dent Mater.* 31:778-788.

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### Division of Operative Dentistry

Delbons, F.B., J. Perdigão, E. Araujo, C.A. Melo Freire, D.D. Caldas, J.L. Cardoso, M. Pagani, G.A. Borges, and R.B. Lima. 2015. Randomized clinical trial of four adhesion strategies in posterior restorations-18-month results. *J Ethet Restor Dent* 27:107-117.

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Paula, E.A., L.Y. Tay, C. Kose, A. Mena-Serrano, A. Reis, J. Perdigão, and A.D. Loguercio. 2015. Randomized clinical trial of four adhesion strategies in cervical lesions: 12-month results. *Int J Esthet Dent.* 10:122-145.

Perdigão, J., M.A. Munoz, A. Sezinando, I.V. Luque-Martinez, R. Staichak, A. Reis, and A.D. Loguercio. 2014. Immediate adhesive properties to dentin and enamel of a universal adhesive associated with a hydrophobic resin coat. *Op Dent.* 39:489-499.

### Division of Prosthodontics

Tiozzi, R., E.M. de Torres, R.C. Rodrigues, H.J. Conrad, G. de Mattos Mda, A.S. Fok, and R.F. Ribeiro. 2014. Comparison of the correlation of photoelasticity and digital imaging to characterize the load transfer of implant-supported restorations. *J Prosthet Dent.* 112:276-284.

## The Lasby Visiting Professorship brings distinguished American and international scholars to the School of Dentistry for collaborative research.

“It is wonderful to be able to visit another university for a period of time! It is interesting and inspiring, and gives a new perspective to the work you are doing back home, and many new ideas,” commented recent Lasby Fellow Maria Pigg, D.D.S., Ph.D., assistant professor of odontology at Malmo University in Sweden.

Trained in endodontics and in the diagnosis and management of TMD and orofacial pain, Maria Pigg is an expert in somatosensory testing in both intra- and extraoral sites. She spent two weeks at the School of Dentistry in August, a visit made possible by the Lasby Professorship Program. “Her expertise in this area was fundamental to improving and fine-tuning our research project,” says Estephan J. Moana-Filho D.D.S., M.S., Ph.D. in the dental school’s Division of TMD and Orofacial Pain.

The Lasby Professorship was created in 1967 by a generous bequest from Dr. Helen Jeffrey Lasby in honor of her father William F. Lasby, professor and former School of Dentistry dean (1927-1945). Dean Lasby is credited with fostering the beginning of basic, clinical and epidemiological research at the School of Dentistry. Sixty-two years after his death and almost 50 years after the initial bequest, William Lasby’s legacy continues.

Each Lasby fellow is invited by a faculty host based on a research plan, which is reviewed by the dental school’s Research Committee. Fellows receive a stipend and reimbursement of travel expenses.

Over time, changes have come to the Lasby Fellowship. “In recent years the Lasby Professorship has supported some younger investigators and shorter visits,” says Associate Dean for Research Sven

Gorr, Ph.D. “This is in keeping with the changing research landscape where investigators are not able to leave their home institutions for extended periods. The invitation of younger researchers provides an important infusion of fresh new ideas to the school’s research programs in times when new hiring is limited.”

“The visit gave me an excellent opportunity to develop a deeper collaboration with researchers in the Division of TMD and Orofacial Pain,” writes Maria Pigg. “During the visit, we worked together to refine a research protocol for an exciting new project, and did some training in the clinical method to be used. I also worked on a manuscript from a different joint project. Future collaboration between our groups will definitely benefit, and I hope there will be more opportunities for visits—both ways!—in the future.”

## Jill Stoltenberg Receives Century Club Professor of the Year Award

**Jill Stoltenberg, M.A.** was named the 2014 *Century Club Professor of the Year*. The award is the School of Dentistry's highest honor, presented annually to recognize one faculty member's outstanding contributions in education, research and service.

Stoltenberg is a three-time graduate of the University of Minnesota and an associate professor (with tenure) in the School of Dentistry's Division of Dental Hygiene (Department of Primary Dental Care).

Widely recognized by all who know her as a consummate educator, respected clinician, innovative program director, and a School of Dentistry leader, she is testimony to the maxim that a life well lived is determined by the impact it has on the lives of others. "She is both thoughtful and passionate in her approach to teaching, and a gifted leader who is respected and appreciated across all disciplines," said Leon Assael, dean of the School of Dentistry.

On faculty since 1976 (with only a brief time away to pursue graduate work), Stoltenberg helped launch the careers of an entire generation of dental hygienists. She's been a clinical instructor for dental hygiene students at all levels of academic endeavor, and a mentor to graduate students pursuing a master of science in dental hygiene degree in their research, as well as the development of their clinical and didactic teaching skills. As an instructor, she challenges students to do their very best; as a mentor, she models through both words and actions the personal and professional standards she has come to exemplify. She is lauded by her colleagues as "the best clinician, bar none," a critical consumer of dental literature and often a resource for many on various topics, and as a colleague who is dedicated and detailed in both her work and personal relationships.

Her contributions to the quality of patient care in Minnesota and beyond are evidenced both in the accomplishments of her students, as well as in her collaborative research, which has been published in journals of dental hygiene and periodontology, and in other research publications. She served as clinic director of the dental hygiene division for many years, and was instrumental in rebuilding the clinical program to include evidence-



Jill Stoltenberg

based clinical protocols and optimal experiences in student skill development and competency. She also recently concluded her second, two-year term as Secretary of the School of Dentistry's Council of Faculty where she deftly led her colleagues through complex governance discussions and negotiations.

Her interest in enhancing access to dental care in communities of need led to the establishment of the neighborhood clinic Health, Etc. and the H.C. Anderson School dental clinic. She served, as well, on the quality assurance committee for Open Cities Dental Clinic in St. Paul, and has been a consultant to 3M and Procter and Gamble, and a reviewer for the *Journal of Dental Hygiene*.

As a member of the International Association for Dental Research and the American Dental Education Association (ADEA), Stoltenberg participated in a variety of organizational activities and was the dental school's representative to ADEA's Council of Faculties. She is a member of the Minnesota Dental Hygienists' Association (MDHA) and served on various MDHA committees, chairing its Education and Research Council, and serving as a delegate at the association's annual session.

Her experience as a clinical dental hygienist includes general and specialty practice, including hospital dentistry. She enjoys treating patients with special needs, has taught in the Cleft Palate clinic at the University of Minnesota, and volunteered her services to treat HIV/AIDS patients in Uganda. She currently practices in the School of Dentistry faculty practice.

Stoltenberg has served as president of Sigma Phi Alpha (Eta Chapter) and as a member of the Minnesota Dental Hygiene Educators Association.

For these contributions and many more too numerous to mention, she received the school's highest honor. Jill Stoltenberg accepted the *Century Club Professor of the Year Award* on April 24 at the Dean's Reception, held in conjunction with the Minnesota Dental Association's 2015 *Star of the North Meeting*.

She was again honored on May 15, 2015, when she led the processional of graduates, faculty and dignitaries into Northrop Auditorium at the School of Dentistry's 126th Commencement Ceremony (see photo on page 12). ☉

PHOTO BY JERRY VINCENT



## A Letter from the President

Dental professionals are efficient. We establish routines to eliminate variables, create success, and finish the task. We hone this skill in our professional lives, and we transfer it to our personal lives. The irony is that sometimes we become so efficient that we fail to see the world around us.

Education is one way to see the world around us. It comes from being curious, asking questions, and uncovering multiple answers. Education can be formal, but sometimes it is spontaneous. The University of Minnesota not only offers a plethora of formal knowledge, it provides a framework to access spontaneous information. It is a collection of vibrant people who are also interested in learning. It is alive. As important as dentistry is to us, it is one part of a much larger world. Sometimes we need to stop and take a look.

For a glimpse into the broader world of the University, be sure to check out the new Gold Mind at [www.minnesotaalumni.org](http://www.minnesotaalumni.org). The Gold Mind will allow you to pique your curiosity and access presentations by faculty from across the University in the YouTube™ type format. Some presentations are short, some are longer, but all provide interesting and helpful information.

Your School of Dentistry Alumni Society partners with the dental school's Continuing Dental Education Department every year to bring alumni affordable, relevant courses through Clinical Grand Rounds. The six-part series offers alumni the opportunity to hear from expert faculty on a variety of topics. Not able to make it in person? There are numerous satellite sites across Minnesota (and one in Wisconsin), and more are available to those willing to host in their community. All you need is a conference room with internet access, a computer, and someone willing to take and report attendance. Check out the schedule at [www.dentistry.umn.edu/dentalce/](http://www.dentistry.umn.edu/dentalce/).

The University of Minnesota Alumni Association (UMAA) has recently started doing webinars on a multitude of topics. Everything from "Why Diets Don't Work" to "Destination College: A Webinar for Parents and Families of Future College Students." If you missed the live broadcast, they are available on demand and can be viewed from anywhere in the world. Be sure to check out the schedule for upcoming webinars at [www.minnesotaalumni.org](http://www.minnesotaalumni.org).

And if you want to get lost in a sea of activities that will combine experience, people, arts, sciences, humanities...then visit [www.events.umn.edu](http://www.events.umn.edu). You likely will find something on the calendar that draws you back to campus, and allows you to explore your interests.

If you haven't been on campus in several years, you will be pleasantly surprised. I sometimes stop and look, superimposing a mental image from my first years on campus. It has changed dramatically, but the foundation remains the same.

Pause and take look at what the University has to offer. Don't be sidetracked by your efficient routine and preconceptions. Re-open the door you passed through at graduation, and live it again. Treat yourself to a campus visit; bask in the wealth of experiences waiting for you.

Sincerely,

A handwritten signature in black ink that reads "Robert Gardetto". The signature is fluid and cursive.

**ROBERT GARDETTO, D.D.S. '86**  
*President, School of Dentistry Alumni Society*  
[www.dentistry.umn.edu/alumni](http://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](mailto: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.



The 21st Annual Alumni Society Golf Classic was held on July 27, 2015, at Rush Creek Golf Club in Maple Grove. Alumni, students, and sponsors were enthusiastic about the change in venue and all involved had a great day of golf. The Alumni Society greatly appreciates the support from all of our event sponsors, especially tournament sponsors Accelerated Practice Concepts and Baker Tilly Virchow Krause, LLP. Proceeds from the Golf Classic benefit alumni society-supported initiatives, including scholarships, *Give Kids a Smile Day*, affordable continuing education and alumni engagement. This year's co-chairs, Mark Bachman ('00), Mike Sudit ('85), and Cindy Sundet ('85), did a fantastic job in selecting a new site and making sure the overall event was a success.

*Congratulations to the following contest winners:*

**SPECIAL AWARDS:**

- Men's Long Drive:** Kevin Liberko
- Women's Long Drive:** Janel Torgerson
- Closest to the Pin:** Adam Maus
- Longest Putt:** Mike Sudit

**TOP THREE TEAMS:**

- Team 1:** Carol Dahlke  
Jay Kautt  
Christopher McGuire
- Team 2:** Cindy Sundet  
Greg Johnson  
Scott Sundet  
John Wolkerstorfer
- Team 3:** Travis Bjordahl  
Jim Laing  
Brian Broderson



The Winning Team



## Graduation Tradition

The long-standing tradition of alumni supporting new graduates through the Cap & Gown Graduation Fund continued this past spring. Under the direction of Alumni Society Board President Thomas Smyth ('00), more than 200 alumni and dental practices made a gift in honor of the Class of 2015. The fund provides caps and gowns for all School of Dentistry graduates participating in commencement, as well as scholarships and support for senior recognition banquets. On behalf of the Alumni Society and the Class of 2015, thank you!

ABC Pediatric Dentistry  
ADPI of MN-Metro  
Dentalcare  
Ms Kaye Adams  
Albert Lea Dental Care  
Dr. Monica M. Alley  
Dr. Jeffrey S. Amann  
Dr. Gary C. Anderson  
Ms Jeanne M. Anderson  
Mrs. Roberta J. Anderson  
Anderson Dental  
Andrew De La Garza Jr.,  
DDS, PA  
Arnold Orthodontics, PA  
Dr. Bashar Bakdash  
Dr. A. Richard Ballin  
Mary V. Bandt  
Dr. Joseph S. and  
Sarah M. Basile  
Ms Marie A. Baudek  
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Dr. Bruce R. Beier  
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Stephen A. Bejarano  
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Dr. William J. Bellamy  
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Dr. Douglas T. and  
Ms. Patti Bengson  
Dr. Glenn F. and  
Shirlee A. Benson  
Dr. Michelle L. Bergsrud  
Mr. Fred E. Bertschinger  
Dr. John P. Beyer

Dr. Bernard and  
Eleanor Borkon  
Dr. Aaron M. Bumann  
Dr. Michael J. Bussa  
Mona V. and Todd G. Calder  
Dr. Richard L. Callender  
Mrs. Darlene D. Chesney  
Dr. Dafni Chiona  
Dr. Nicole R. Churchill  
Ms. Diane S. Clysdale  
Robert E. Conlin, DDS  
Dr. Patrick J. Coschignano  
Dr. Terry A. Cowgill  
Cumberland Family  
Dental, SC  
Carol J. Dahlke  
Dakota Valley Oral and  
Maxillofacial Surgery, PA  
Dr. Stephen H. Danielson  
Dr. Katherine Darling Lund  
Dr. Ralph DeLong  
Dr. Alan F. Schneider,  
DDS, LLC  
Dr. Thomas Smyth, Inc.  
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Wimmer, PA  
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Rita Kirsch Dungey  
Dr. Scott and Emily Durand  
Dr. Frederick C. and  
Linda Eichmiller  
Drs. Laura M. and  
Robert E. Eng  
Dr. Jerome A. Erickson  
Dr. Raymond W. Evans

Dr. Gerald L. Fields  
Dr. Brent L. Florine  
Dr. Michael &  
Priscilla Flynn  
Forestview Family Dentistry  
Dr. Jeffrey J. Fox  
Dr. Patrick J. and Lynne Foy  
Dr. Michael W. Furey  
Dr. Peder A. Gaalaas  
Dr. Raymond O. and  
Helen L. Garland  
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Joyce E. Rude Johnson

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Sara N. Johnson  
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and Julie A. Kinney  
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Adena F. Borodkin  
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Drs. Randall D. and  
Julie A. Moseng  
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Nicollet Mall Dental Arts  
Dr. John D. Noack  
Dr. George M. and  
Margaret L. Noesen  
Northern Endodontic  
Associates, Ltd.  
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Dr. John C. Ofstehage  
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Dr. Lynne M. Olson  
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Dr. Steven J. Wolff  
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Dr. Lisa A. Young  
Dr. Barbara L. Zajicek  
Dr. James K. and  
Sonja K. Zenk

# 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](mailto: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.

## 1945

**Howard Swanson** (D.D.S.) died in July 2015. While attending dental school he enlisted in the U.S. Navy. Upon graduation he served as a Navy dentist at Farragut Naval Base, Bremerton Naval Base, and on-board the U.S.S. Hector. In 1947, he opened a dental practice in Minneapolis, where he practiced until his retirement in 1989.

## 1947

**David Elasky** (D.D.S.) died on April 26, 2015. He practiced dentistry for 42 years in Edina, Minn. He was a member and officer of the Richfield Optimist Club and the Edina Optimist Club.

## 1951

**Robert D. Jeronimus** (D.D.S.) died on June 13, 2015. Jeronimus was a decorated U.S. Army Infantry officer who served in the European Theater of Operation (principally in Germany), and the recipient of the Legion of Merit, a



Robert D. Jeronimus (L)

Bronze Star Medal (Valor) with Oak Leaf Cluster, the Army Commendation Medal, and the Combat Infantry Badge. Following discharge, he attended dental school, then served a one-year internship (1951-52) at Fitzsimmons General Hospital in Denver, Colo. He was chief of restorative dentistry at Rodriguez Army Hospital in San Juan, Puerto Rico (1953-56) and chief of the Operative and Crown and Bridge Dental Service at Walter Reed General Hospital in Washington,

D.C. (1957-65). He also chaired the Faculty for Restorative Dentistry at the U.S. Army Institute for Dental Research at the U.S. Army Medical Center. At Walter Reed, his patients included a U.S. president and wife, Army generals, U.S. Senators and Congressmen. Jeronimus joined the School of School of Dentistry faculty (Division of Fixed Prosthodontics) in 1965 (part time for one year) and continued teaching until his retirement in 1983. He served as director of the school's continuing dental education program from 1967-1975.

**Norval Vizzier** (D.D.S.) died on July 3, 2015. He served in the U.S. Marine Corps during WWII as a flight instructor at Ft. Snelling. Following the war, Vizzier received his dental degree and practiced in the Medical Arts Building in Minneapolis for more than forty years. He was also a partner in Red Wing Shoe Stores in California.

## 1961

**Jerry Peterson** (D.D.S.) recently stepped down as Lake Dillon Fire Board president. He spent 51 years working in emergency services in Summit County, Colo. Peterson has a practice in Frisco, Colo.

**Katherine Washburn** (D.H.) died July 2, 2015, after battling mesothelioma. She practiced alongside her husband, Francis Washburn ('62) in Rochester, Minn., for 20 years.

## 1964

**Terrance Tri** (D.D.S.) died in August 2015. He served the Hastings community for more than 40 years. Tri joined the army upon graduation from dental school where he served in the Dental Corps, and was a member of the National Guard from which he retired in 2000 as lieutenant colonel.

## 1966

**Richard Adamson** (D.D.S.) died on July 25, 2015. He founded Bassett Creek Dental located in Golden Valley and Elk River. He practiced for 27 years.

## 1972

**David Elasky** (D.D.S.) died in April 2015. His practice was located in Edina.

## 1974

**Mark Boback** (D.D.S.) retired and closed his practice, Dentistry North, after practicing for 42 years in Aurora, Minn.

## 1976

**Michael Zakula** (D.D.S.), Hibbing, Minn., is the recipient of the University of Minnesota Alumni Association's prestigious Alumni Service Award. (See announcement on page 2).

## 1977

**Herb Schulte** (D.D.S.), Minneapolis, Minn., received his mastership in the Academy of General Dentistry at the academy's annual meeting in San Francisco on June 20, 2015.



R. David Resch

## 1978

**R. David Resch** (D.D.S.), Saint Paul, Minn., was installed as first vice president of the Minnesota Dental Association at the association's House of Delegates meeting in September.



Peter Cannon

## 1982

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

## 1983

**E. Dianne Rekow** (D.D.S.), London, England, is the recipient of the University of Minnesota's prestigious Outstanding Achievement Award. (See announcement on page 2 and article on pages 4-7).

**Steven Sperling** (D.D.S.) and **Matthew Penz** (D.D.S., '12) along with four other associates, celebrated the 50th anniversary of their practice, Northwest Dental Group, in Rochester, Minn. "Having been with this incredible practice for more than three decades, it's an honor to handle this community's dental care," Sperling said.



Kevin Dens

## 1985

**Kevin Dens** (D.D.S.), Baxter, Minn., was installed as president elect of the Minnesota Dental Association at the association's House of Delegates Meeting in September.

## 1995

**Jill Stoltenberg** (D.H.), Shoreview, Minn., was named the 2014 University of Minnesota School of Dentistry *Century Club Professor of the Year*. (See article on page 19).

## 1997

**James Nickman** (D.D.S.), St. Paul, Minn., was elected vice president of the American Academy of Pediatric Dentistry at the academy's annual meeting in May 2015.



## 2003

**Robert Wottrend** (D.D.S.) was appointed to the Owatonna School Board in June 2015. "I'm firmly rooted in Owatonna and plan to work here my entire career," Wottrend said. His practice, Wottrend Family Dental, opened in 2005.



Heather Conrad

## 2006

**Heather Conrad** (Prosthodontics Certificate) was named *Educator of the Year* by the American College of Prosthodontists (ACP) and was formally recognized during the ACP Annual Session in October.

## 2009

**Courtney Gieseke** (D.D.S.), Fargo, ND, joined the new Cornerstone Dental clinic in Fargo, ND.

**Jason Issacson** (D.D.S.) received his fellowship in the Academy of General Dentistry (AGD) at the annual meeting in San Francisco on June 20, 2015. The AGD Fellowship Award is presented to dentists who seek to provide the highest quality dental care by remaining current in their profession. To earn this prestigious honor, Issacson completed 500 hours of dental continuing education, passed a comprehensive written exam, and fulfilled three years of continuous membership in the AGD.

## 2010

**Matthew Eaton** (D.D.S.) and **Meghan Smith** (D.D.S.) purchased Valley Dental Center in Fargo, N.D. and have renamed it Valley Dental. The couple previously lived in Medford, Wisc. and practiced at Family Health Center Medford Dental Center.

## 2011

**Adam Holder** (D.D.S.) received his fellowship in the Academy of General Dentistry at the Annual meeting in San Francisco on June 20. The AGD Fellowship Award is presented to dentists who seek to provide the highest quality dental care by remaining current in their profession. To earn this prestigious honor, Holder completed 500 hours of dental continuing education, passed a comprehensive written exam, and fulfilled three years of continuous membership in the AGD.

**Samantha Roach** (Endodontics Certificate) is the recipient of the *Endodontic Educator Fellowship Award*. The award is given by the American Association of Endodontists Foundation to individuals who agree to commit a minimum of five years to a full-time academic career in endodontics.

## 2012

**Paul Enberg** (D.D.S.) joined Gary Plotz (D.D.S. '06) at Shetek Dental, Slayton and Fulda. Following his graduation, Enberg served for two years as a commissioned officer in the United States Army.

**Nicholas Schuett** (D.D.S.) is now the owner of Milaca Family Dental in Mille Lacs, Minn.

## 2015

**Jayce Apelgren** (D.D.S.) joined Herbert Dental of Eau Claire, Wisc. as an associate in July 2015. Herbert Dental is also the practice location of Sean Tarpenning '00.

**Erika Guetter** (D.D.S.) joined the dental department at Family HealthCare in Fargo, ND and Moorhead, Minn.

**Ashley Valesano** (D.D.S.) joined the practice of Northwest Dental Group in Rochester, Minn.

### Teaming up for better patient care.

Working as a team is a rich and rewarding experience and essential to the daily activities of a dental practice in which the dentist, dental therapist and dental hygienist work together to provide the best care for patients. School of Dentistry students begin to develop team skills during their first days of school in exercises that stress interdependence and a culture of trust and respect for the contributions of all members of the team. Incoming dental, dental therapy and dental hygiene students are shown here in team-building activities at Orientation, held August 6-7, 2015.



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# EventsCalendar

## NOVEMBER 2015

**November 11  
Minnesota Student  
Dental Society Vendor  
Placement Fair**  
4:00 to 6:30 p.m.  
TCF Stadium  
DQ Club Room

*For information: Call Dawn  
(612) 767-8400  
(800) 950-3368*

## DECEMBER 2015

**December 3  
Dental Therapy  
Senior Banquet**  
*(by invitation only)*

## JANUARY 2016

**January 21  
School Of Dentistry Alumni  
Society Board Meeting**  
5:30 p.m.

## FEBRUARY 2016

**February 6  
Give Kids a Smile Day**  
University of Minnesota  
School of Dentistry  
Minneapolis, Minn.

## MARCH 2016

**March 5-6  
Arizona Alumni Events**

*Arizona Minne-College  
(UMAA):*  
March 5  
12:30 to 5:30 p.m.  
Hilton Scottsdale  
Resort and Villa  
Scottsdale, Ariz.

*Alumni Brunch:*  
March 6  
*Time and location  
to be determined*

**March 16-19  
American Association  
for Dental Research**  
Los Angeles, Calif.

*Reception:  
To be announced*

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

## APRIL 2016

**April 21  
School of Dentistry Alumni  
Society Board Meeting**  
5:30 p.m.

**April 22-23  
26th Annual Daniel E.  
Waite Lecture**  
Rochester, Minn.

*For information, contact:  
Julie Reed, (507) 266-2821*

**April 28-30  
Star of the North Meeting**  
Saint Paul RiverCentre  
Saint Paul, Minn.

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

**April 29  
Dean's Reception and Alumni  
Award Recognition**  
5:00 to 7:00 p.m.  
Saint Paul Hotel  
Saint Paul, Minn.

## MAY 2016

**May 5  
School of Dentistry Alumni  
Society Board Meeting**  
5:30 p.m.

**May 5-6  
Montana Dental Association  
Annual Meeting**  
Red Lion Colonial Hotel  
Helena, Mont.

**May 12  
Senior Banquet**  
*(By invitation only)*

## Receptions and Reunions

**Dental Hygiene Alumni Luncheon**  
April 29, 2016, 12:30 to 1:30 p.m.  
317 on Rice Park  
St. Paul, Minn.  
*Contact: Emily Best*

**American Association of Endodontists Annual Session**  
April 6-9, 2016  
San Francisco, Calif.  
*Reception: Moscone Center  
Contact: Dr. Scott McLanahan*

**American Association of Orthodontists Annual Session**  
April 29-May 3, 2016  
Orlando, Fla.  
*Reception: To be announced  
Contact: Steve Litton*

**American Academy of Pediatric Dentistry Annual Session**  
May 26-29, 2016  
San Antonio, Tex.  
*Reception: To be announced  
Contact: To be determined*

**May 13  
School of Dentistry  
Graduation**  
10:00 a.m.  
Northrop Auditorium  
University of Minnesota  
Minneapolis, Minn.

**May 12-14  
South Dakota Dental  
Association Annual Session**  
Rapid City, S.D.

*Alumni Reception:*  
May 13  
5:00 to 7:00 p.m.  
Rushmore Plaza Holiday Inn  
and Civic Center

## 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](http://www.events.tc.umn.edu)

# 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.)*

## NOVEMBER 2015

**Clinical Grand Rounds for the Dental Team: Gastroesophageal Reflux Disease**  
November 5, 2015

**Postgraduate Program in Contemporary, Esthetic & Implant Dentistry: Level II—The Patient Series**  
November 13-15, 2015  
January 8-10, 2016  
January 21-23, 2016  
February 12-14, 2016  
April 8-10, 2016

**Fall Core Competency Day for the Dental Team**  
November 20, 2015

**Winter Dental Assistants' Seminar**  
November 21, 2015

## DECEMBER 2015

**Clinical Grand Rounds for the Dental Team: Periodontics**  
December 3, 2015

## JANUARY 2016

**Advanced Composite Restorations: A Hands-on Program**  
January 8-10, 2016

**Protocols in Panoramic Radiographic Interpretation**  
January 15, 2016

**Gingival Displacement & Soft Tissue Management: A Training Program**  
January 16, 2016

**Simulated Implant Placement: A Hands-on Program**  
Carlsbad, California  
January 21-23, 2016

**What's New in Dentistry**  
January 22, 2016

**Decision Making in Endodontics: Enhancing Clinical Outcomes**  
January 29, 2016

**Dental Equipment Maintenance, Repair & Safety: A Hands-on Workshop for the Dental Team**  
January 30, 2016

## FEBRUARY 2016

**Clinical Grand Rounds for the Dental Team: Understanding Orofacial Pain Presenting as 'Tooth' Pain**  
February 4, 2016

**21st Annual Ski & Learn Steamboat Springs, Colorado**  
February 4-6, 2016

**Panoramic Radiography Tips for the Orthodontic Assistant**  
February 5, 2016

**Updates in Obstructive Sleep Apnea: Diagnosis & Management**  
February 19, 2016

**Removal of Bond Material with Rotary Instrumentation: A Hands-on Program**  
February 25, 2016

**Winter Dental Hygiene Seminar: Chairside Caries Management for the Dental Hygienist**  
February 26, 2016

## MARCH 2016

**Clinical Grand Rounds for the Dental Team: Implant Supported Prosthesis for the Edentulous Arch**  
March 3, 2016

**12th Annual Dental Research Updates from the U of M**  
March 4, 2016

**Mastering Digital Full-mouth & Panoramic Radiographic Technique: A Hands-on Program**  
March 5, 2016

**Miniresidency in Pediatric Dentistry**  
March 11-13, 2016

**Medical Emergency Management: A Dental Team Approach**  
March 18, 2016

**Gingival Displacement & Soft Tissue Management: A Training Program**  
March 19, 2016

## APRIL 2016

**Nonsurgical Periodontal Management**  
April 1, 2016

**Clinical Grand Rounds for the Dental Team: Management of the Cleft Palate Patient**  
April 7, 2016

**Spring Recordkeeping Workshop for the Dental Team**  
April 14, 2016

**Pharmacology Update for the Dental Team**  
April 15, 2016

**Interpreting Cone Beam CT Images: An Interactive Workshop**  
April 22, 2016

**Implant Supported Prosthesis Utilizing the All-on-4™ Treatment Concept**  
April 23-24, 2016

## MAY 2016

**Orthodontic and Periodontal Esthetics: Postgraduate Program in Contemporary & Esthetic Dentistry—Level III**  
May 4-7, 2016

**Dental Hygiene Refresher: A Hands-on Program**  
May 9-12, 2016

**Spring Core Competency Day for the Dental Team**  
May 20, 2016

## JUNE 2016

**Contemporary Periodontal Management Protocols & Soft Tissue Diode Laser Certification for the Dental Hygienist**  
June 9-10, 2016

## JULY 2016

**Annual Duluth Program**  
July 16-17, 2016

## 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](http://www.dentalce.umn.edu)

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*I* am very grateful to the School of Dentistry's donors for their generosity in providing me with invaluable financial assistance through the scholarship programs. This gift has helped substantially in reducing my student loans as I finance my way through dental school. Thank you for your support and for investing in the education of future generations!

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Miranda Mulligan  
D.D.S. CLASS OF 2016