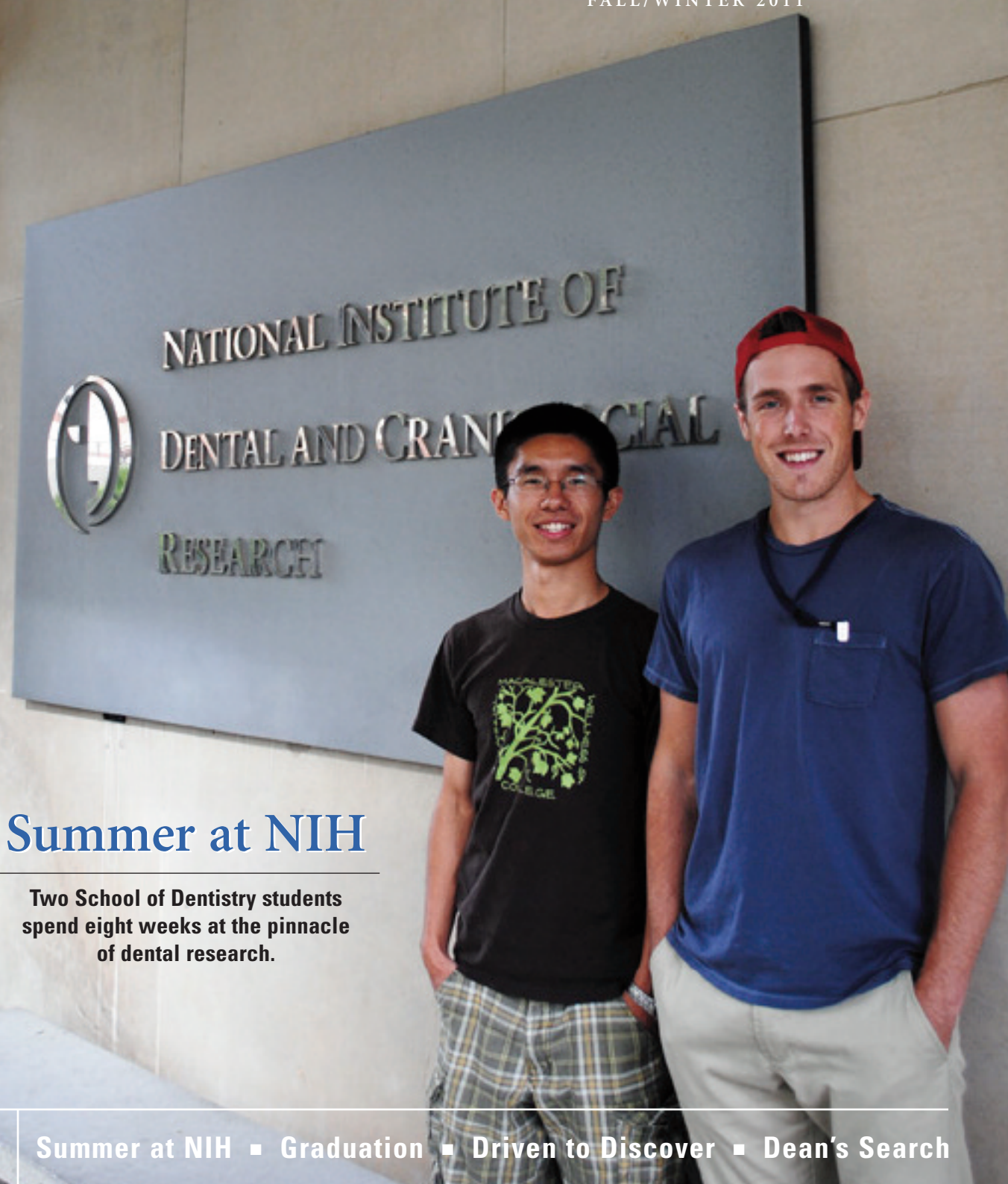


Dentistry

FOR ALUMNI OF THE SCHOOL OF DENTISTRY
FALL/WINTER 2011



Summer at NIH

Two School of Dentistry students spend eight weeks at the pinnacle of dental research.



PHOTO BY TIM RUMMELHOFF

from the Dean

Dear Colleagues,

Best wishes from all of us at the School of Dentistry for a healthy and happy new year.

What a difference a year makes! The leadership transitions at the University and the School of Dentistry over the past 12 months have been remarkable. Starting at the top, the University of Minnesota has a new president, Dr. Eric Kaler, who arrived July 1, 2011. We will welcome Dr. Karen Hanson as our new provost and senior vice president of academic affairs in February. And we have a new Vice President of Health Sciences and Medical School Dean Dr. Aaron Friedman who began his appointment one year ago. Of greater significance to our school was the departure of Dean Patrick Lloyd in August 2011 to become dean of The Ohio State University College of Dentistry and director of dentistry for The Ohio State University Medical Center. I was named interim dean in July and, along with the School of Dentistry community, look forward to the appointment of the school's 13th permanent dean who will continue to lead with the vision and commitment we were fortunate to see under Dr. Lloyd's leadership. For an update on the search for a new dean, please see the page 11 interview with Dr. Trevor Ames who chairs the search committee with the help of the School of Dentistry's Dr. Bashar Bakdash as vice chair.

Although the school's leadership has changed, our commitment to our tripartite mission of education, research and service has not wavered. In this issue, we take a look at our research program from two perspectives. Our cover story introduces you to two of our students and the truly unique research opportunities afforded them as part of their education program. In a companion article, we meet three individuals—two current faculty members and one faculty emeritus—who have devoted their careers to tracking down clues to how tiny viral invaders make us sick. Both articles explore the personal motivation

and the education and mentoring experiences that make possible the scientific discoveries of today and beyond, as well as the transition of responsibility for tomorrow's discoveries from one generation of investigators to the next. Each article also provides a glimpse into some of the many ways the School of Dentistry contributes to that future through support of basic and clinical research, as well as research training and career development programs. To round out the discussion, we proudly share a list of articles published in scientific and professional journals that documents the significant contributions of our faculty and the breadth and diversity of our research initiatives.

Another article of interest announces an initiative generating considerable excitement both at the dental school and throughout the Academic Health Center and University—the construction of Minnesota's only hospital-based children's dental clinic. Not only will this new clinic offer a home to our specialty program in pediatric dentistry, it also will help the dental school care for those most needy children with medical, developmental and emotional needs. And the opportunities for collaboration with other health care professionals will help support the Academic Health Center's strong commitment to interprofessional education. We are moving forward with construction of the clinic and are interviewing candidates for the position of clinic and program director. We expect the clinic will open in Spring 2012.

The new year looks to be a very exciting time for all of us associated with our great School of Dentistry. I hope that, as always, you will stay connected so that you may continue to be an informed advocate for your school.

All the very best to you and yours.
Sincerely,

JUDITH A. BUCHANAN
Interim Dean

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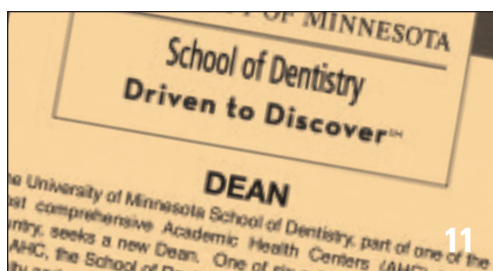
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PHOTO BY VALERIE LAMBROS

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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Judith A. Buchanan
Interim Dean

Claudia L. Kanter
Director, Marketing and Communications

Emily Jensen
Terri Peterson Smith
Contributing Writer

Pikala Design Company
Graphic Design

Richard Anderson
Valerie Lambros
Tim Rummelhoff
Scott Streble
Photographers

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News Bites

School of Dentistry Receives \$3.5 Million from Delta Dental of Minnesota Trust

University to Build State's Only Hospital-Based Children's Dental Clinic

The School of Dentistry has received a \$3.5 million gift from Delta Dental of Minnesota Trust to support the construction of the state's only hospital-based

and outpatient basis," says Judith Buchanan, interim dean of the School of Dentistry. "It will be home to our advanced education program in pediatric

dentistry and offer our dental residents a rich educational experience in an environment of coordinated care, working with pediatricians, nurses, pharmacists, therapists and dieticians."

The state-of-the-art clinic will feature fourteen dental operatories designed to accommodate pediatric patients and a family member or

care-giver, along with a team of dental professionals. For pediatric dental residents, there will be opportunities for bedside evaluation of hospitalized patients, as well as access to both the hospital's pediatric operating rooms and its pediatric emergency room when children arrive unexpectedly with acute conditions.

The clinic will also offer medical and dental residents and faculty within the University's Academic Health Center opportunities for interprofessional collaboration and learning in pediatric patient care, education and research. There will be experiences in oral assessment and primary preventive dental services for the Medical School's pediatricians-in-



The U of M's own Goldy Gopher joined University, donor and community representatives on October 4 as they took sledgehammers to a giant maroon and gold bulls-eye to launch the clinic renovation and construction. The clinic is anticipated to begin operation in April 2012.

pediatric dental clinic and the most advanced pediatric dental clinic in the Upper Midwest.

The clinic—named the University of Minnesota Pediatric Dental Clinic, Made Possible by Delta Dental of Minnesota—will be located adjacent to the new University of Minnesota Amplatz Children's Hospital on the west bank campus of the University of Minnesota Medical Center, Fairview. The hospital opened in April 2011 and the pediatric dental clinic is anticipated to begin operation in April 2012.

"The clinic will be a regional resource for children, including those with complex medical, developmental and emotional needs, both on an inpatient



PHOTO BY SCOTT STREIBLE

training, as well as clinical rotations for dental residents in the General Practice Residency Program. The clinic will also serve the state as a venue for implementing and evaluating the effectiveness of new delivery models of dental care, such as the effective integration and utilization of dental therapists in the dental practice.

“We are very pleased to help bring this great new resource for Minnesota children to life,” says Delta Dental of Minnesota CEO and President, and Chair of Delta Dental of Minnesota Trust Rodney Young. “Every dollar will be invested in bricks and mortar, and the investment will be multiplied many times over through improved oral health for children.”

Pediatric dentists Teresa Fong Sit and Rick Baylon co-chair the capital campaign committee charged with raising \$4.5 million to build the clinic and fund its operations for the first two years. Says Fong Sit, “All kids deserve access to quality dental care. This clinic will address access-to-care challenges of many of the state’s children now and into the future.”

According to Baylon, “Looking ahead, we can expect the number of children seeking dental care will increase as a result of recent changes that now mandate dental benefits for thousands of more children. This underscores the importance of educating pediatric dentists, and this new clinic will help provide exceptional next-generation education and patient care.”

The capital campaign launched in February 2010 with several gifts, including a \$500,000 grant from 3M Foundation. In addition to Drs. Fong Sit and Baylon, the campaign committee also includes pediatric dentists James Nickman (Lino Lakes) and Joni Richmond (St. Paul).

A Landmark Event

Members of the School of Dentistry’s inaugural class of dental therapy students donned caps and gowns for a Campus Club ceremony on December 3, 2011, to celebrate the completion of their bachelor and master’s degree programs in dental therapy. The dental therapy students are the first in the nation to graduate from an accredited school of dentistry. More than 100 family members, friends and faculty were on-hand to participate and applaud the honorees as pioneers of a new profession.

UMAA Honors School of Dentistry Volunteer

The University of Minnesota Alumni Association (UMAA) honored its outstanding alumni volunteers, groups and programs at a celebratory event held October 20, 2011, at the McNamara Alumni Center.

New Prague general practitioner **George H. Winn** ('66) accepted the association’s highest honor, the prestigious *Alumni Service Award*, in recognition of his more than four decades of outstanding volunteer service to the University of Minnesota and its School of Dentistry.



In presenting the award, UMAA President Phil Esten heralded Winn’s contributions. “Through his commitment to students of future generations, George Winn exemplifies the alumni bonds that secure the University’s long-term viability. His passion for supporting the institution and its research is evident through his tireless work to steward financial support and his commitment as a member of the Board of Governors for the University of Minnesota Hospitals and Clinics.” In addition, Winn also serves as a member of the University’s Regent Selection

Committee, and is in his second term as a trustee of the University of Minnesota Foundation.

At the School of Dentistry, Winn’s contributions include more than 25 years as a faculty member in the Department of Operative Dentistry. He helped to implement the SELECT program, a national pilot project of the American Dental Association created to recruit high ability students into dentistry. The successful implementation of the program resulted in an expansion of the school’s recruiting activities to creatively incorporate area dentists as recruitment partners. In addition, Winn served the School of Dentistry as a member of the 2000x2000x2000 Endowment Campaign and as a member of the Simulation Clinic Campaign Cabinet, which raised \$3.7 million in private support to build the dental school’s state-of-the-art dental Simulation Clinic. In 2002, he received the school’s Distinguished Dental Alumnus Award.

A mentor, entrepreneur, community leader, University benefactor and just plain regular guy, George Winn has packed several lifetimes of experience into one career. His resolute work on behalf of the University demonstrates his deep interest and faith in the University, its School of Dentistry, and in the students and patients of future generations.

Summer at NIH

Two School of Dentistry students spend eight weeks at the pinnacle of dental research.

BY TERRI PETERSON SMITH



At first glance, the basic science research that takes place in university and government laboratories seems far-removed from the real-world applications

of dental practice. Yet, according to Sven-Ulrik Gorr, the School of Dentistry's associate dean for research, an appreciation for complexity and the ability to observe, interpret, analyze, infer, and evaluate are fundamental skills required of both the scientist and clinician. "Their basic activities are quite similar. They must be able to recognize a problem, assess relevant information, criteria and standards, and try to come to a well-reasoned and workable means to address those problems," he says. "As dentistry moves increasingly toward evidence-based practice, the most important thing is to be able to critically evaluate what's in front of you."

In a future in which specialized knowledge has a fleeting half-life, the School of Dentistry seeks to prepare all of its students to be lifelong learners who continually seek, critically evaluate and assimilate new knowledge. "And," says Gorr, "research experience is one of the best ways to cultivate such skills, even for students who may not pursue careers in research."

Two second-year dental students, Xu Han and Nathan Burbach, had the ultimate research experience this summer. They spent eight weeks doing hands-on research at the National Institutes of

Health as recipients of the Summer Dental Student Award from the National Institute for Dental and Craniofacial Research (NIDCR). Though the summer award program has been around since 1999, this is the first year dental students from the University of Minnesota have applied. "The fact that Han and Burbach were accepted for two of just 14 available slots reflects well on the School of Dentistry," says Gorr. "Our students have strong backgrounds and credentials."

"As dentistry moves increasingly toward evidence-based practice, the most important thing is to be able to critically evaluate what's in front of you."

— SVEN-ULRIK GORR, ASSOCIATE DEAN FOR RESEARCH

Other awardees came from dental schools across the country including Harvard, University of California-San Francisco, University of Pennsylvania and Howard University.

NIDCR, which is the federal government's lead agency for scientific research on oral, dental and craniofacial disease, is part of the 27 institutes and centers that make up the National Institutes of Health (NIH). Its mission is to improve oral, dental and craniofacial health through research, research training, and the dissemination of health information.

To that end, it conducts and supports basic and clinical research, as well as research training and career development programs to ensure an adequate number of talented, well-prepared and diverse investigators. It also coordinates relevant research-related activities among all sectors of the research community, and promotes the transfer of the knowledge gained and its implications for health to the public, health professionals, researchers, and policy-makers.

The NIDCR designed the Summer Dental Student Award program to give talented dental students research experience and exposure to the latest advances in oral health at the NIH campus in Bethesda, Maryland. Students are matched to mentors who conduct research in the students' areas of interest. They work alongside some of the country's outstanding scientists using the most advanced technologies in all areas of research, such as bone/mineralized tissue formation, pathology, gene expression, cell adhesion molecules, cell signaling and receptors, genetic regulation of nerve and blood vessel regeneration, pain mechanisms and management, protease biochemistry, and many others.

Says Burbach, "The National Institutes of Health is one of the largest medical research centers in the world. The campus is a completely gated research community that employs nearly 15,000 people who are all focused on advancing their fields of research. So walking onto campus you quickly realize that this is the "real deal."

Already Experienced

According to the program's director Deborah Philp, students selected to participate in the program come from a variety of backgrounds. "The common factor among all of the award recipients is that they are well-rounded candidates with a strong interest in exploring dental and craniofacial research," she says. "Students are not required to have previous research experience." But both Han and Burbach had research experience in spades. They each participated in the dental school's Summer Research Fellowship Program. And, says Han, "I did a lot of research as a Macalester College undergrad, at the Donald Danforth Plant Science Center in St. Louis, at Peking University in Beijing, and at the University of Dortmund in Germany. I really enjoy research and want to keep it up. I want to translate research to patient care." At the University of Minnesota he worked with Sven-Ulrik Gorr, an NIH-funded investigator with research interests and experience in cell biology of secretory mechanisms, antibacterial peptides, and Sjögren's syndrome. "Xu is a great guy," says Gorr, "very inquisitive and self-directed."

In Bethesda, Han's research focused on Rho GTPases, the proteins that serve as molecular "switches" to control complex cellular processes. In this case, the lab was studying how these Rho GTPases, located in the membrane protrusions of metastatic cancer cells, regulate the breakdown of the extracellular matrix in healthy cells. Ken Yamada, chief of NIDCR's Laboratory of Cell and Developmental Biology, was Han's mentor. He says, "Xu contributed significantly to our research by carefully performing key Rho GTPase enzyme assays. We were impressed by his intellect, maturity, poise, enthusiasm, and willingness to work hard on his project. We hope that others like him from the University of Minnesota School of Dentistry apply to NIDCR in future years."

Burbach also came to research through the dental school's Summer Research Program. And, he was mentored through the school's MinnCResT (Minnesota Craniofacial Research Training) Program, which aims to train the next generation of independent investigators exploring questions in craniofacial, oral health and

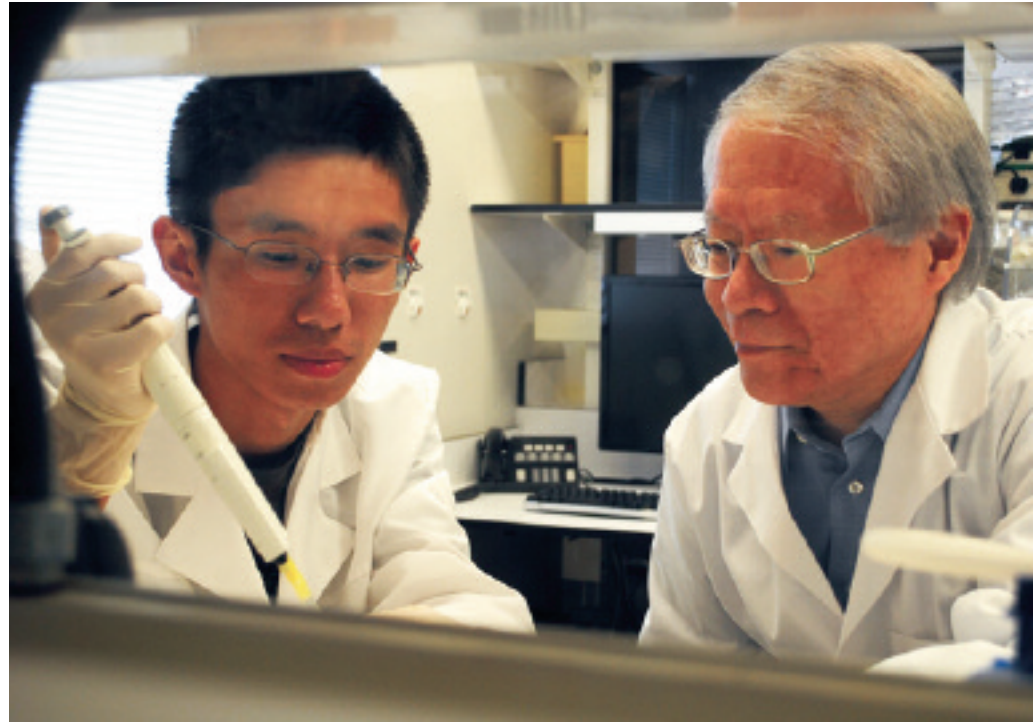


PHOTO BY VALERIE LAMBRIS

(L to R): Second-year dental student Xu Han and Ken Yamada, chief, NIDCR Laboratory of Cell and Developmental Biology.

dental research. Supported by a major grant from the NIDCR, the MinnCResT program provides some School of Dentistry summer research fellows the opportunity to do research under the guidance of a MinnCResT mentor, who

"The campus is a completely gated research community that employs nearly 15,000 people who are all focused on advancing their fields of research. So walking onto campus you quickly realize that this is the 'real deal.'"

— SECOND-YEAR DENTAL STUDENT
NATHAN BURBACH

is often a School of Dentistry faculty member or a MinnCResT post-doctoral fellow. Faculty from other Academic Health Center schools participate, also.

Says Joel Rudney, professor in the Department of Diagnostic and Biological Sciences and director of the Summer

Research Program, "The mentors are world-class researchers in many different fields, including neuroscience, craniofacial development, bone biology, biomaterials, microbiology, and immunology." Many are *basic* scientists housed within the School of Dentistry. But the Summer Research Program also offers the opportunity for students to have experience with *clinical* research in dentistry. Summer fellows have done clinical projects in orthodontics, endodontics, periodontology, orofacial pain, oral radiology, prosthodontics, and oral pathology. Says Rudney, "In 2011, eleven of our summer fellows presented their research at the International Association for Dental Research meeting in San Diego, and we anticipate that several of those presentations will lead to students being named as co-authors on published papers. They're doing serious research, and that is what makes it stimulating for our summer fellows."

Burbach worked in the lab of MinnCResT mentor Anna Petryk, a member of the University of Minnesota medical school faculty. Her lab works with mouse models of craniofacial defects. They are investigating how to regulate bone morphogenic proteins that are used to regenerate bone in



PHOTO BY VALERIE LAMBROS

(L to R): Pamela Robey, chief, NIDCR Craniofacial and Skeletal Diseases Branch, and second-year dental student Nate Burbach.

reconstructive surgery of the jaw. Burbach will be listed as a co-investigator in a paper to be published in *Frontiers In Craniofacial Biology* and Petryk recommended him for the NIDCR program. “He’s an independent thinker and advances projects on his own,” she says.

Burbach’s NIDCR work was related to his investigations in Petryk’s lab. Says Burbach, “My research centered around bone marrow stromal cells (BMSCs), which are multi-potent stem cells capable of becoming osteoblasts, or bone forming cells of the body. I studied interactions of BMSCs and certain proteins to characterize how BMSCs undergo the transformation into osteoblasts.”

His NIDCR mentor, Pamela Robey, is chief of the organization’s Craniofacial and Skeletal Diseases Branch. She says, “Sometimes the summer students come in without any experience at all. That can be a lot of work on the mentor’s side. But I always make sure that everyone in the lab contributes to helping the student. It’s important to make sure that the environment is nurturing, no matter what level of training the summer student has.”

She says, “It was great to have Nate in the lab. He was enthusiastic, understood the nature of the project that he was

working on, worked hard and consistently, and got along well with everyone in the lab. He had a fair amount of experience from his previous work, and we tried to give him new experiences, such as running quantitative PCR reactions.”

He also got a taste of the obstacles that researchers often encounter. Robey explains, “Unfortunately, we were not able to complete the studies because the cells would not cooperate. Cells from this particular strain of mice did not grow well, which was completely unpredicted. But Nate did a lot to optimize the cell cultures so that we can continue the experiments. He will be a co-investigator on the paper when it is completed.”

Outside the Lab

The NIH experience offered students a chance to broaden their horizons beyond the laboratory, too. Burbach says, “This opportunity allowed me to live someplace new, learn something new, pursue my interests, and challenge myself in many different ways.” That included Han and Burbach’s visit to New York City. “The best part was going up to the 86th floor of the Empire State Building on a clear day and seeing the whole city.” They also enjoyed social events with other students in the program and were particularly

appreciative of a visit from Dean Patrick Lloyd. “He took us out to dinner and visited the lab,” says Han. “I was impressed that he took time out of his busy schedule to do that.”

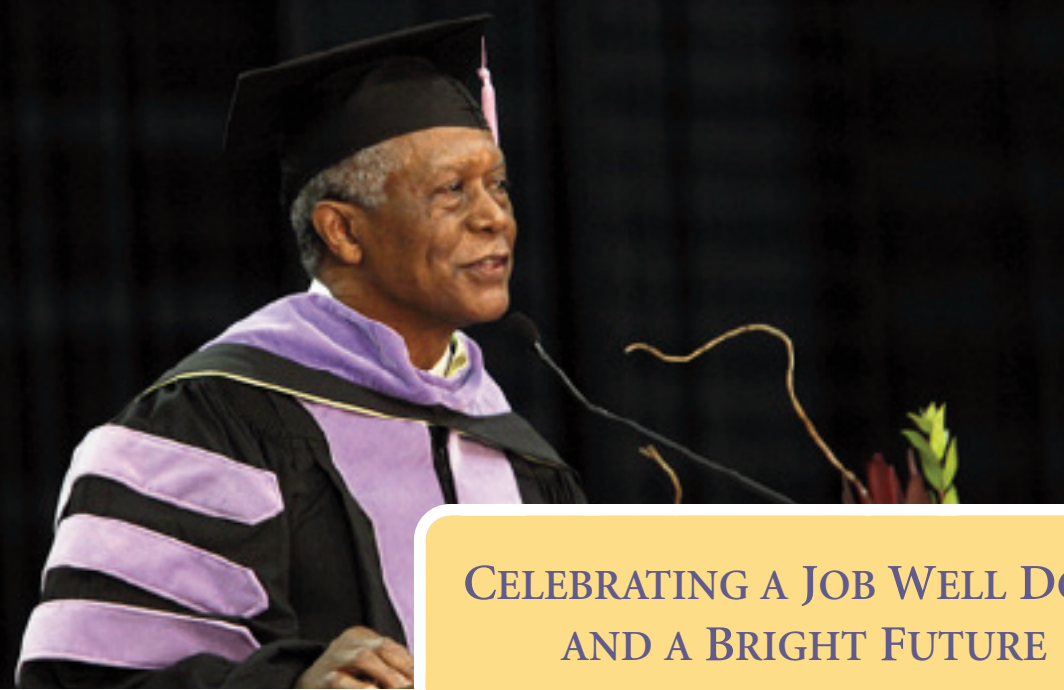
Because one of the goals of the NIDCR program is to encourage students to incorporate research into their careers, there were plenty of panel discussions with oral health researchers about career options. “I’m unsure if I will pursue research or academia in the future, but my experience at the NIH allowed me to grow professionally and opened communication for future career choices within dentistry,” says Burbach. The group also took field trips to the University of Maryland School of Dentistry and to the National Museum of Dentistry in Baltimore. The museum’s exhibits include George Washington’s dentures, Queen Victoria’s dental hygiene tools, ancient toothbrushes and the first dental diploma—quite a contrast to the students’ high tech lab life.

Prepared for the Future

While bone morphogenic proteins and Rho GTPase enzyme assays may seem like science fiction now, Gorr points out that basic research has made possible—as standard practice—the cancer treatments, dental implant technology, and other breakthroughs that seemed unimaginable a couple of decades ago. The dental office of the future, he says, might incorporate advances such as routine saliva diagnostics to identify cancer biomarkers and other diseases, the use of bone morphogenic proteins to regenerate tissue, the administration of therapeutics for both routine and complex treatments, and more.

The research being conducted at the NIH, the University of Minnesota and its dental school is pushing those frontiers. “While the science may not have immediate applications for dental practice,” says Gorr, “you can certainly see the potential for clinical applications from here.”

And, he says, as the basic science advances, so will it contribute to a reshaping of the profession. “The opportunity for our students to participate in research training opportunities is an important way of developing the critical thinking skills and an appreciation for complexity that will prepare our students for that future, and beyond.” ☉



CELEBRATING A JOB WELL DONE AND A BRIGHT FUTURE

Students, families, friends, faculty and alumni gathered on Friday, May 13 to celebrate the 2011 School of Dentistry commencement ceremony. Held this year in Mariucci Arena, this is the 122nd year the school has gathered to honor the achievements of our graduates.

A highlight of this year's ceremony was participation by the dental school's 2010 Century Club Professor of the Year Mansur Ahmad, B.D.S., Ph.D., who led the processional into the arena carrying the University mace. Student speakers Theresa M. Freeman (dental hygiene class of 2011) and Jeffrey R. Remakel (doctor of dental surgery class of 2011) shared remarks on behalf of their graduating classes, and commencement speaker Raymond Gist, D.D.S., president of the 157,000-member American Dental Association, shared his vision of collaboration and of working together to face challenges that inspire forward-thinking careers. Gist also met with student leaders in organized dentistry prior to the event. Participating in the ceremony were 134 graduates from the dental hygiene, doctor of dental surgery, and advanced education programs.

Senior banquets were also held to present awards to graduating students. The doctor of dental surgery graduates celebrated with their families and friends on May 12 at Nicollet Island Pavilion. The banquet for graduates of the dental hygiene program was held on July 28 at the Indoor Club Room, TCF Bank Stadium. ☉



Driven to Discover

Making possible the scientific advances of today and beyond.

BY EMILY JENSEN

If you ask Shelley Grimes what she wanted to be when she grew up, she'll tell you she had her sights set on being a veterinarian. At a young age, Grimes enjoyed the sciences and felt that a career in that field would be the best fit for her.

But that all changed after she got her first pet.

"We had gerbils and I didn't like them one bit," Grimes said. "They'd bite and scratch, and when I discovered I was shy around other kinds of animals, I decided that a career as a veterinarian was not for me."

Grimes continued taking science classes in high school and also in college, and as an undergraduate at St. Olaf College she became especially interested in two fields: microbiology and genetics.

"My teachers in those subject areas were really inspiring," said Grimes. "For them, it wasn't just about making students memorize things—they made the material come alive."

Grimes completed her undergraduate studies, entered graduate school at the University of Minnesota, and continued to pursue her interest in genetics. She

began working in the lab of Dwight Anderson, a School of Dentistry scientist who was studying a simple virus that infects soil bacteria—bacteriophage phi29 (pronounced *fee* 29). During the previous two decades, Anderson had developed the phi29 experimental system into one of

"We wanted to do things that were unprecedented—not run of the mill stuff, but approaches that would have impact in other areas."

— DWIGHT ANDERSON

the premier research tools to study the fundamental principles of virus assembly. Specifically, his team studied how the viral RNA and DNA utilizes proteins and enzymes of the host cells to replicate and assemble new virus particles that can be transmitted to infect other cells. It was research that might one day lay the foundation for a better understanding of how similar viruses like the herpes viruses make us sick. It could also inform the

field of the basic rules for how macromolecules in all living cells interact, assemble and function.

Grimes completed her Ph.D. in Anderson's lab before moving on to a one-year postdoctoral position in Phoenix. In 1990, she accepted a full-time position back in Anderson's lab and continued exploring phi29.

Combining Forces

Meanwhile, in New Brunswick, Canada, a graduate student named Paul Jardine was earning his Ph.D. in biology. He was particularly interested in virology, and knew of Anderson's work through numerous academic conferences.

"Dwight had the best experimental system and the best lab," said Jardine. "Several of my colleagues spoke highly of the environment at the University of Minnesota and also about how Dwight makes science fun."

After completing his Ph.D., Jardine applied for a post-doctoral position in Anderson's lab and began working alongside both Anderson and Grimes in 1997.

In addition to adding Grimes and Jardine to his research team, Anderson sought partnerships with multi-



(L to R): Paul Jardine, Dwight Anderson, and Shelley Grimes.

disciplinary experts in structural biology and single-molecule biophysics from Purdue University and from Berkeley. “We wanted to do things that were unprecedented—not run of the mill stuff, but approaches that would have impact in other areas,” Anderson said.

Together, they focused much of their investigations on how strands of viral DNA were packaged into protein shells, a critical step in the assembly of infectious virus particles that deliver viral DNA from cell to cell. Major breakthroughs came with the characterization of a “molecular motor” that drives this process. Utilizing chemical energy within the cell, this motor packages DNA into virus particles. By combining classical genetics and biochemistry with state-of-the-art structural biology and single-molecule biophysics, the Minnesota group and their collaborators discovered that the phi29 packaging motor is one of the strongest force-generating molecular motors ever reported—with a power-to-weight ratio 20 times greater than a car engine. Not only have their studies contributed to a better understanding of the mechanisms of virus assembly and DNA packaging, their research has

found a broad audience in the scientific community of those studying the enzymes and motor complexes that drive all cellular processes.

“One of Dwight’s gifts was his vision—he was always looking to the horizon and where we would be going next,” Grimes

“For a long time, nobody was able to get inside and see the ‘engine’ of this virus. But now we’ve opened the hood and are starting to take the engine apart to understand how it actually works.”

— PAUL JARDINE

said. “He saw that we needed additional expertise to move the science forward, and that’s exactly what this multi-disciplinary collaboration did.”

Passing the Torch

In 2004, when it came time for Anderson to retire, he had two bright and productive

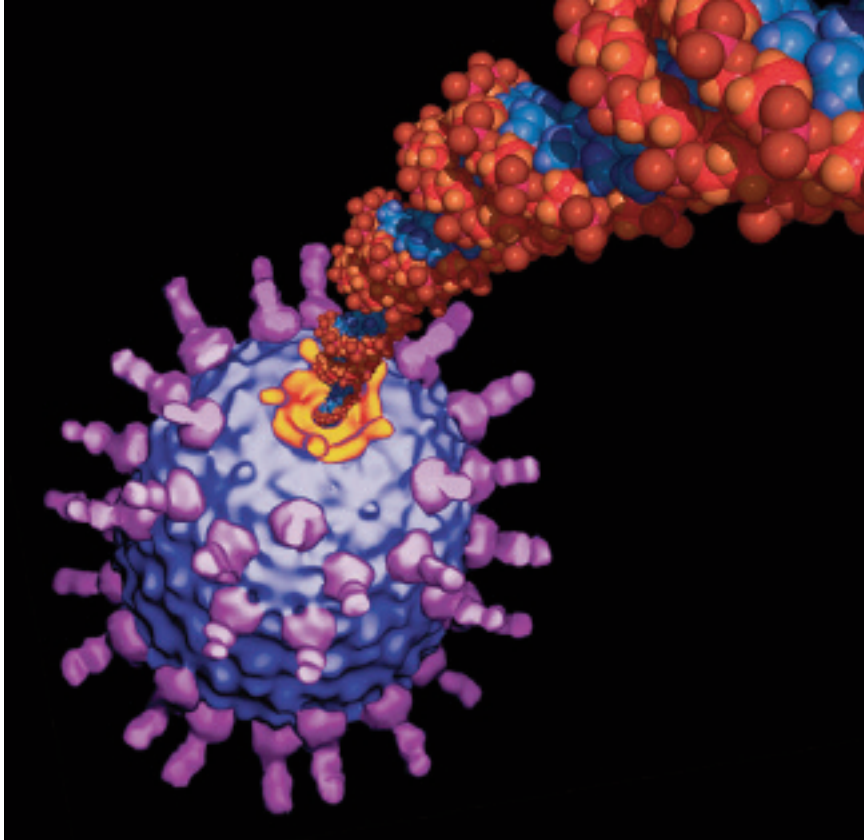
colleagues to take over. Grimes and Jardine rose to the occasion right away, knowing it would not be an easy road to take.

“We knew it would be a challenge. Even though there are two of us, to replace someone with such a history and momentum in science isn’t easy,” said Jardine. “It was a tremendous learning process and we felt like we were filling some pretty big shoes.”

After Anderson retired, the dental school provided some support for the team as the two worked on renewing grants for a few years to keep their program functioning and moving forward in a particularly difficult funding environment. Ultimately, after much effort, they were able to successfully renew their research funding and continue the science of phi29 in Minnesota.

Getting Under the Hood

Over the years, the research team has completed a number of high-risk, high-yield projects. With each breakthrough, the group reveals a little bit more about the virus and uncovers more and more questions that need to be answered. ☺



Anderson and colleagues discovered a molecular motor (yellow) that drives the DNA packaging process. The motor packages DNA (orange & blue) into a protective protein shell (blue & purple). Thousands of newly assembled viruses within the bacterium cause the cell wall to rupture, releasing an army of viruses to infect new cells.

“If you were to compare it to ten years ago, we’ve gone from cartoon-like ideas to complex atomic models of tens of thousands of atoms in a structure,” Jardine said.

For example, recently they found that the molecular motor has five subunits that communicate and coordinate with each other in order to properly package the DNA. If there’s a defect in one of the subunits, it affects the function of the others. The motor also senses defects in the DNA, making multiple attempts to pass modified sections to continue packaging the DNA.

It’s these advancements that excite Grimes and Jardine and motivate them to continue in their studies. In many ways, Jardine says the ongoing project is a lot like a mechanic understanding the inner-workings of a car.

“When we get into a car, we put the key into the ignition and the engine starts. Somewhere under the hood is your engine,” he said. “For a long time, nobody was able to get inside and see the ‘engine’ of this virus. But now we’ve opened the hood and are starting to take the engine apart to understand how it actually works.”

Marching Ahead

So, what does it take for a group to pioneer more than four decades of research and receive 42 consecutive years of NIH-funding?

“Good students, good post-docs, 60 hour work weeks, and always the

“Every time we discover something new, all of a sudden another door opens and there’s a whole new pathway. And that’s what makes it exciting to stay in this research for 20 years.”

— SHELLEY GRIMES

mindset that we’re going to be on the cutting edge,” said Anderson. “Our intent is to publish in the best places; *Nature*, *Cell*, the *Proceedings of the National Academy of Science*. And we have. This contributes to keeping our funding.”

Grimes and Jardine point to Anderson’s enthusiasm and excitement as inspiration to continue searching for answers.

“One thing I have witnessed from Dwight, and been able to model my behavior on, is perseverance,” said Grimes. “If you persevere, you’re going to get there. It’s a long road, but it’s definitely a worthy road.”

For Jardine, it is Anderson’s long-term vision that has made his lifetime research project successful.

“Dwight’s a ‘big ideas’ guy. He’s always done exceptionally long-term, high-risk and high-yield projects,” said Jardine, “and few labs have the resources or the courage to attempt these sorts of projects.”

Keeping the Inspiration Alive

Grimes and Jardine chose to pursue careers in the sciences because of mentors who inspired them, and both point to their scientific community for removing barriers between junior scientists and those who are world-renowned in their field.

“When I’d go to conferences as a grad student, I’d sit before a generation of researchers who developed the field,” says Jardine. “We’d go to meetings and I was in awe that they’d sit down and talk about my project with me. It was very humbling, and it’s still the same way today. The level of interest and support for first- and second-year grad students is the same as it is for those who have been in the field for decades.”

When Grimes works with junior scientists in her lab, she understands the importance of instilling positive impressions. She always tries to put their work into context and show them how it fits as a piece into the bigger picture. That way they stay motivated and understand the important role they’re playing in the project.

As for what keeps Grimes and Jardine inspired, Grimes points to continuous breakthroughs in their research.

“Every time we discover something new, all of a sudden another door opens and there’s a whole new pathway,” says Grimes. “And that’s what makes it exciting to stay in this research for 20 years.”

For Jardine, what keeps him inspired is the feeling that he’s doing something that’s important and meaningful. “It’s not about saving the world or making money—it’s about wanting to do the best science. And by working with phi29, we get to do that with an elegant, beautiful system.” ☉

Search Begins for New Dean of the School of Dentistry

In September 2011, the University of Minnesota launched a nationwide search to recruit a new dean for the School of Dentistry. Currently, Professor Judith Buchanan serves as interim dean, following the August 2011 departure of Patrick M. Lloyd to become dean of The Ohio State University College of Dentistry and director of dentistry for The Ohio State University Medical Center. Dentistry Magazine talked with Search Committee Chair Trevor Ames, dean of the University's College of Veterinary Medicine, about the search process.

Dentistry Magazine: Thank you for your leadership on behalf of the School of Dentistry. Can you tell me about the search process and where we're 'at'?
Search Committee Chair Trevor Ames:

The search is being conducted under the direction of Senior Vice President for Academic Affairs and Provost Tom Sullivan, and Aaron Friedman, vice president for health sciences and Medical School dean. Both of these individuals met in May 2011 with School of Dentistry faculty, staff and students, and with Minnesota Dental Association, alumni and industry representatives. They discussed the leadership attributes they will look for in a new dean and articulated the University's commitment to maintaining the momentum and expanding upon the school's reputation for excellence in clinical education, training and care, and research.

The search committee was appointed in September. The School of Dentistry's Bashar Bakdash, Director of the Division of Periodontics, is vice-chair. There are also members from the education, research and service interests within the school, plus a student, and alumni and University representatives. We are working with a national executive search firm experienced in recruiting exceptional leaders for mission-driven organizations, which includes successful searches for the University of Minnesota and several dental schools. We drafted a position

description based on input from the provost and health sciences vice president, as well as from listening sessions conducted by our search firm with interested members of the School of Dentistry faculty, staff, and students. And we ran ads in the leading education and dental education publications.

DM: There are a number of dental schools looking for a dean. What was the response?

TA: We are looking for a visionary, and a committed, experienced and influential leader. And we have a strong pool of outstanding candidates. With the help of the search firm, we've had phone calls, video conferences and in-person meetings with some of the individuals to gather more detailed information. At our December meeting, we reviewed the information and selected eight individuals for confidential screening interviews with the search committee in late January. All eight have indicated a strong interest in the University of Minnesota and all are excited that they are being considered.

DM: What's the next step?

TA: After conducting confidential interviews with these candidates, the search committee will identify several individuals who have the academic, administrative, leadership and personal qualities to lead

the School of Dentistry in the years to come. This smaller group of candidates will be invited for on-campus interviews with faculty, staff, students, University officials, and other stakeholders, including alumni, members of the practicing community, and donors. We hope to identify by early to mid-February the candidates we'll invite to campus. This group will participate in the public aspects of the on-campus interviews.

DM: Have there been any surprises along the way?

TA: Not really. It's been good to see that the dental school and all of its stakeholders care deeply about the success of the search and the future of the school. That's what I hoped I would find when I agreed to help with this process. It is my goal to have this commitment and enthusiasm for the school be reflected in the on-campus interview process with the final candidates.

DM: When are you hoping for a decision?

TA: We hope to make a committee recommendation to the provost and vice president shortly after the on-campus interviews are completed. The provost has expressed his interest in having someone on board in Fall 2012. It's an ambitious timeline. But we're finding that the School of Dentistry has an outstanding national and international reputation as a leader, and there are several exciting projects in the works that make this a great opportunity for someone who wants to contribute to that continued growth. The outstanding pool of candidates from which we're drawing speaks well of the reputation of the School of Dentistry and we're excited to meet some of these leaders. ☉

Mansur Ahmad Receives Century Club Professor of the Year Award



Mansur Ahmad

PHOTO BY SCOTT STREBLE

Mansur Ahmad, associate professor and director of the Program in Radiology (Department of Diagnostic and Biological Sciences) was named the dental school's 2010 Century Club Professor of the Year at the Dean's Recognition Reception held April 29, 2011. The award is the School of Dentistry's highest honor and is conferred upon one faculty member each year in recognition of outstanding contributions in education, research and service.

Ahmad earned his B.D.S. degree from the Patna Dental College and Hospital in Patna, India, graduating first in his class. He served as a house officer for a year at the same institution and then spent four years in general dental practice. He then headed to the University of Connecticut Health Science Center where he completed a certificate program in oral and maxillofacial radiology, a Ph.D. program in oral biology, and a post-doc fellowship in the Department of Orthopedic Surgery. In 1999, he joined the faculty of the University of Minnesota School of Dentistry.

A man of many talents, interests, friends and accomplishments, Ahmad is a gifted clinician and teacher who sets the standard in his work and personal relationships. His colleagues applaud him as a radiology 'wizard' who is thoughtful, diligent and humble, and a professional with superb skills, a great sense of humor, and a remarkable passion for all that he does. Student course evaluations laud him as friendly, encouraging, approachable and "awesome," and a man who "can teach a class of more than 100 students and somehow make everyone feel like he knows us personally." And as a favorite invited speaker by local, state, and national organizations, he is acclaimed as an educator who has the ability to "translate knowledge in an organized and succinct way while being extremely engaging."

At the University of Minnesota, Ahmad directs three pre-doctoral courses each year, teaches two dental hygiene and dental therapy courses/year, and directs an advanced interpretation course for School of Dentistry graduate students. Because of his continued interest in basic bone biology, he mentors graduate students at the University of Minnesota and at the University of Cairo, and has supervised graduate students in the disciplines of endodontics, orthodontics, periodontics, prosthodontics, TMD, and public health. He's also served on a variety of School of Dentistry standing and search committees, and he plays a vital role in the school's plan to incorporate digital radiography into its new electronic health record. He is one of only two Diplomates of the American Board of Oral and Maxillofacial Radiology in Minnesota.

He is also a researcher, with interests in the areas of tissue engineering, mineralization of hard tissues, angiogenesis, radiation biology, and temporomandibular joint imaging. His funded research has focused in these areas, specifically on the pre-malignancy detection by fluorescent spectroscopy, TMD diagnostic criteria, tubular capillary formation, and evaluation of cone beam CTs. The results of his investigations have been published in some of the most respected journals in the field of oral and maxillofacial radiology, as well as in the *Journal of Biomaterials*, *Microvascular Research*, and the *Journal of Histochemistry and Cytochemistry*. He's presented more than 25 abstracts on his work at the scientific meetings of numerous organizations, collaborating with faculty among different units in the University's Academic Health Center and with faculty and graduate students throughout the School of Dentistry. He also is a peer reviewer of manuscripts for the *Journal of Dental Research*, the *Journal of Orthopaedic Research*, *Biomacromolecules*, and several other publications. He is a current director of the American Board of Oral and Maxillofacial Radiology (AOMR).

In presenting the award, former Dean Patrick Lloyd cited Ahmad's election to a directorship of the American Board of Oral and Maxillofacial Radiology as yet another indication of the esteem in which he is held by his professional colleagues, nationally and internationally. That he is also the author of several books for school children used in Sunday schools across the country and around the world is testament to his multi-faceted interests, talents and contributions. And his selection as the School of Dentistry's Century Club Professor of the Year is a reflection of the deep appreciation and respect of his students and his colleagues for his many contributions to the education, research and service mission of the School of Dentistry and its University. ☉



PHOTO BY SCOTT STREBLE

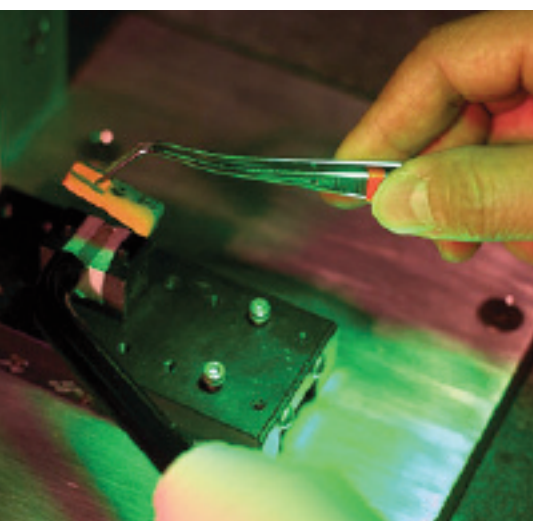


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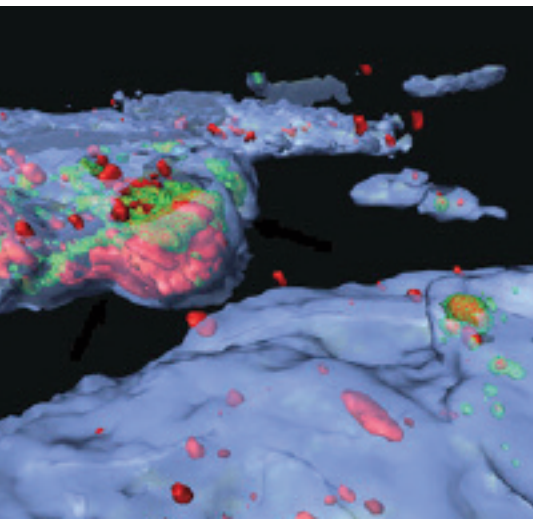


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Research Publications



Sven-Ulrik Gorr

This past year, faculty, staff, students and research fellows have again made significant contributions to the body of knowledge that forms the foundation for our profession. School of Dentistry researchers published 118 articles in scientific and professional journals between September 2010 and August 2011. These articles reflect the School of Dentistry's diverse research programs and the important collaborations across disciplines and with researchers outside of the School of Dentistry, be it across the academic health center or around the world. This breadth of scholarship is a testament to the continued vitality of our research programs and bodes well for future advances in dental research and oral health.

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

Sincerely,

SVEN-ULRIK GORR, PH.D.

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DEPARTMENT OF RESTORATIVE SCIENCES

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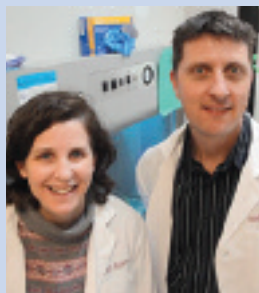
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Paper of the Year Awards

The second annual *Paper of the Year* awards were presented at Dean's Day in recognition of the significant achievements of School of Dentistry faculty in three categories: Basic Sciences, Clinical Sciences and Social and Behavioral Sciences & Public Health.

Awards were presented to:

Basic Sciences



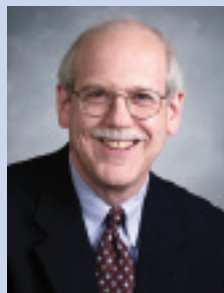
Kim Mansky and Eric Jensen

Presented to **Eric Jensen, Ph.D.** and **Kim Mansky, Ph.D.** for the publication:

Schwarz, T., Sohn, C., Kaiser, B., Jensen, E. D. and K. C. Mansky. 2010.

The 19S Proteasomal Lid Subunit POH1 Enhances the Transcriptional Activation by Mitf in Osteoclasts. *Journal of Cellular Biochemistry*. 109(5): 967-74.

Clinical Sciences



Stephen Shuman

Presented to **Stephen Shuman, D.D.S., M.S.** for the publication:

Chen, X., Shuman, S. K., Hodges, J. S., Gatewood, L. C. and J. Xu. 2010. Patterns of Tooth Loss in Older Adults with and without Dementia:

A Retrospective Study Based on a Minnesota Cohort. *Journal of the American Geriatrics Society*. 58(12): 2300-7.

Social and Behavioral Science & Public Health



Naty Lopez

Presented to **Naty Lopez, Ph.D.** for the publication:

N. Lopez. 2010. What Dental Schools Can Learn from College Experiences of American Indian Students. *Journal of Dental Education*. 74(4): 381-91.



A Letter from the President

Dear fellow alumni and future alumni,

When it comes to my volunteer activities at the University, I've always found that I 'receive' and 'learn' far more than I give. I am exposed to new ideas, experiences and people I may not otherwise have had the opportunity to encounter. Several recent highlights stand out in my mind.

Last year, I attended a number of University of Minnesota events on behalf of the School of Dentistry Alumni Society (SODAS). I beamed with pride as our component society, alumni and students received University awards for outstanding accomplishments, volunteerism and programming. In May, I represented our dental alumni society at the School of Dentistry graduation ceremony, which took place in Mariucci Arena. I actually met and spoke with the commencement speaker, American Dental Association President Dr. Raymond Gist. It was an honor to be on stage alongside so many distinguished guests, and to do so nearly 29 years after my own graduation from the School of Dentistry.

The positive energy present within the School of Dentistry is inspiring. I feel it every time I am on campus to attend a meeting or participate in a professional development course or to teach at the General Practice Residency Program. If I could offer one piece of advice for current students, recent graduates and even "seasoned alumni" it would be this: Stay connected and get involved with your school. Do it for the benefit of our future colleagues, for yourself, and for your community and your patients.

Staying involved is important because there is an interconnected relationship between students and alumni. We all benefit from the research done here, the world-class educational opportunities, the cutting-edge technology, the commitment to providing healthcare for the underserved, and the list goes on. And the University, our School of Dentistry, and its students benefit from the strong support of the alumni.

Alumni can stay connected to the School of Dentistry and the University on various levels. One important way to do that is to join the School of Dentistry Alumni Society. We're involved in a variety of successful initiatives to improve the alumni and student experience through sponsorship of such events as the annual student/alumni leadership conference, homecoming, graduation, the White Coat Ceremony, the Golf Classic, and the Clinical Grand Rounds monthly continuing education programs. We also support the student yearbook. By joining the School of Dentistry Alumni Society, you make possible the continued support and expansion of these and so many other outstanding programs and initiatives for both students and alumni.

I invite each one of you to take advantage of any of the many opportunities to be involved with the School of Dentistry—working directly with students or as a board member of the alumni society. Give a little and you might be surprised at the impact it has.

A handwritten signature in cursive script that reads "Susan Gross, D.D.S." The ink is dark and the signature is fluid and legible.

SUSAN GROSS, D.D.S.'82
President, School of Dentistry Alumni Society
www.dentistry.umn.edu/alumni

Class Notes

Please submit brief notices about milestone events and activities to: *U of M School of Dentistry, Alumni Relations* (attn: Annie Pearson), 515 Delaware St. S.E., 15-136 Moos Tower, Minneapolis, MN 55455 or penmo008@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.

1940

Marie I. Brown (nee Mulcahy) (D.H.), Dundas, died June 23, 2011, at age 90. She maintained her dental hygiene license throughout her lifetime. She was active in community affairs, including service on the Little Prairie School Board, and involved with the Rice County Extension, Community Garden Society, Northfield Hospital Auxiliary, Community Bible Study, and the St. Lawrence Church Bible Study. She was a lifelong honorary member of the Rice County Farm Bureau, an honorary parent member of the Northfield Future Farmers of America, and a member of Divine Mercy Catholic Church Parish of Faribault.

1941

Sara H. Jones (nee Teigen) (D.H.), St. Louis, Mo., died on August 4, 2011, at age 90. The recipient of the Louise C. Ball Award, Jones practiced in Minneapolis until 1944 when she left dental practice to live and travel internationally with her husband, an officer in the Air Force.

1944

Harold A. Pressman (D.D.S.), Billings, Mont., died February 8, 2011, at age 90. After serving in the Naval Dental Corps, he moved to Billings to practice dentistry. In 1958, he took a sabbatical and earned a master's degree in prosthodontics at the University of Iowa, then returned to Billings where he helped develop the athletic mouth guard program for the Billing Public Schools. In 1968, he joined the faculty of the University of Minnesota School of Dentistry and taught for three years, each year receiving a student award for Outstanding Clinical Instructor. He returned to Billings in 1971 where he practiced dentistry until his retirement. In addition to several community activities, he was a member of Psi Omega Dental Fraternity, the Montana Dental Association and the Minnesota Prosthodontic Society, and was a Fellow of the American College of Dentists and a life member of the universities of Minnesota and Iowa alumni associations. In 1990, he received the Clinical Excellence Dental Award from the Montana Dental Society.

Lucille Margaret Schumann Rachie (D.H.), Deer Lodge, Mont., died May 14, 2010 at age 84.

1946

Eileen Ann Mullaney Seifert (D.H.), Bloomington, died in August 2010 at age 88.

1948

Eugenia Ulvestad Ouren Bovard (D.H.), Clear Lake, Iowa, died June 11, 2011, at age 84. A talented painter, sculptress and accomplished pianist, she traveled for a year after graduation with a government dental program, caring for disadvantaged children in the southern states. After moving to Iowa with her husband, she raised four children and participated in community service activities, helping local immigrant children in a learn to read program, working at the MacNider Art Museum and the Clear Lake Art Center, and playing the glockenspiele in the New Horizon Community Band. She also enjoyed traveling and had memorable sojourns to Paris, Florence, Montreal and Quebec City over the years.

1951

Verdie L. Hagenstad (D. D. S.), Phoenix, Ariz. passed away on February 13, 2011, at age 87. During World War II, he served in the United States Army in Europe. After returning to Minnesota and graduating from dental school, he practiced dentistry in Arizona until 1987. He was a member of the Delta Sigma Delta Fraternity.

1956

Donald S. Benson (D.D.S.) Rochester, passed away June 11, 2011. He served in the Navy for two years and returned to Rochester in 1958 to start his dental practice where he practiced for 42 years until his retirement in 2000. He was an adjunct clinical associate professor at the School of Dentistry until 2010 and a supervising dentist at the Rochester Community and Technical College Dental Hygiene Program for several years. He was also a volunteer dentist at the Salvation Army Good Samaritan Dental Clinic. He enjoyed dental practice, gardening, tennis, skiing, snowmobiling, hunting, fishing, photography, and spending time with his family.

1957

Barbara Ruth Swentkofske (D.H.), Grand Rapids, died April 23, 2011. She earned a bachelor of science degree in Public Health from Bemidji State University and worked as a dental hygienist in Grand Rapids, retiring in 1990. An avid supporter of community initiatives, she was an early organizer of the Grand Rapids Community Foundation, a

past president of the regional Council of Camp Fire Girls and a board member of Camp Bluewater. She also held a variety of offices with, and was a member of, the Community Presbyterian Church. She enjoyed trips to the Boundary Waters and traveling the world with her husband. She also has the unique distinction of being both one of the first American Field Service (AFS) sisters in Grand Rapids (to a young woman from Finland), and (later in life) an AFS mother to the daughter of that same AFS sister. She was a lifelong active member in the local American Association of University Women and the PEO, a philanthropic educational organization that celebrates, educates and motivates women to achieve their highest aspirations.

1960

Robert Mundt (D.D.S.), Roseville, passed away August 6, 2011. He was 80 years old. He served two tours of duty in Korea as an electrician on the aircraft carriers U.S.S. Antietam and U.S.S. Princeton. He returned to Minnesota, graduated from dental school and earned an M.S.D. in orthodontics in 1962, then practiced orthodontics in the Midway area of St. Paul until 2002. In addition to teaching in the Graduate Orthodontic Clinic, he was also a 35-year volunteer at the Cleft Lip and Palate Clinic at Children's Hospital in St. Paul. He enjoyed skiing, traveling, flying small aircraft, and spending time at the family cabin.

1977

Mark Bierschbach (D.D.S.), Milbank, S.D., is president of the South Dakota Dental Association (SDDA). His professional activities also include service as a former SDDA district trustee, membership in the Pierre Fauchard Academy, the SDDA Forensic Dental Team and the International College of Dentists, as well as past leadership positions on the Milbank Chamber of Commerce and the Milbank Community Foundation. His personal interests include travel, hunting, and spending time at his lake home.

1978

Thomas Kovaleski (D.D.S.), Chugiak, Alaska has been appointed to the Alaska Board of Dental Examiners for a four year term. A long time Western Regional Board (WREB) Examiner, he also was appointed the Alaska representative on the Exam Review Committee for WREB. Kovaleski has been the Dental Director for the Alaska Native Medical Center for 22 years.

1979

Robert A. Neill (D.D.S.), Butte, Mont., is the president of the Montana Dental Association.

1985

Peter Jorgenson (D.D.S.), Willmar, was recognized as an associate fellow of the Academy of Implant Dentistry. One of 514 dentists in the country to be so recognized, Dr. Jorgenson maintains a dental practice in Willmar, Minnesota.

2000

Heather Hill (D.D.S.), Lake Oswego, Ore., passed away April 30, 2011. As a legacy to Heather, a charitable gift fund has been established to support the work, causes and values that she believed in. Contributions may be made payable to the "Dr. Heather K. Hill Memorial Fund" and mailed to 40 Churchill Downs, Lake Oswego, OR 97035. Heather's Caring Bridge Website may also be accessed where people can read her story and post comments.

www.caringbridge.org/visit/heatherkhill/journal



Homecoming 2011

More than 40 energized students, staff, faculty and families marched with the School of Dentistry in the 2011 Homecoming Parade on October 21, distributing School of Dentistry tooth-brushes up and down the parade route. Among those accompanying Interim Dean Buchanan were dentistry's most famous ambassadors: The Tooth Fairy (fourth-year dental student Nellie Pooler), Toothy (fourth-year dental student Molly McKibben) and second-year dental student Robert Henson as Count Plaquela.



60th Reunion: Class of 1951

(L to R) **Front Row:** Joseph Balach, Lloyd Jacobson, Lloyd Truax, Raymond Asp and James Bussen. **Second Row:** Warren Quist, Kenneth Erickson, Donald Carrels and Robert Tanquist. **Back Row:** Peter Mastel and Lee Hermann.



The Finishing Touch: Alumni Sponsor Caps and Gowns for Grads

With an outpouring of generosity, alumni and friends made contributions to underwrite the cost of caps and gowns for the 2011 classes of dental and dental hygiene graduates. The effort, led by Clayton Sheppard ('85), this year's Cap and Gown Committee chair, has been a tradition for the School of Dentistry Alumni

Society since 1997. A list of the 2011 donors to the Cap and Gown campaign is provided below. We send a sincere **thank you** to all contributors for their help in welcoming the graduating dentistry and dental hygiene classes to the profession.

Ms. S. Kaye Adams
Dr. Laura A. Aeschlimann
Dr. William S. Akey
Dr. Thomas G. Arnold
Dr. Bashar Bakdash
Dr. Dellin Bakkum
Dr. A. Richard Ballin
Dr. Joe Basile
Ms. Marie Baudek
Dr. Steven J. Baune
Dr. William Becker
Dr. Tom Beckman
Dr. Brad D. Bekkedahl
Dr. Kathleen Bellamy
Dr. William Bellamy
Dr. Michael Bennett
Dr. Glenn Benson
Mr. Fred E. Bertschinger
Dr. Peter A. Berven
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Dr. Michael Monti
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Dr. Spike (Virgil) Mylan
Dr. Stephen Nelson
Dr. Jim Nickman
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Drs. Mark & Joey Omlie
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Dr. Andrea C. Welch
Dr. Gary Williams
Dr. John C. Withrow
Dr. Larry and Elizabeth Wolff
Dr. Steven Wolff
Dr. Lisa A. Young
Dr. James Zenn

Events Calendar

FEBRUARY 2012

February 29
1919 Society Meeting
(for dental hygiene alumnae)
7:00 p.m. to 9:00 p.m.
15-264 Moos Tower
School of Dentistry
Minneapolis Campus
Minneapolis, Minn.

February 29-March 4
American Student Dental Association Annual Session
(for ASDA members only)
Hyatt Regency Minneapolis
Minneapolis, Minn.

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

MARCH 2012

March 21-24
American Association for Dental Research
Tampa, Fla.

Reception
To be announced

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

March 30
8th 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 information, contact:
(612) 625-1418
(800) 685-1418
www.dentalce.umn.edu

APRIL 2012

April 14
22nd Annual Daniel E. Waite Lecture
Mayo Clinic
Rochester, Minn.

For information, call:
(612) 624-9959

April 18-21
American Association of Endodontists Annual Session
Hynes Convention Center
Boston, Mass.

Alumni Reception
To be announced

For annual session information:
(312) 266-7255

April 26-28
Star of the North Meeting
Saint Paul RiverCentre
Saint Paul, Minn.

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

April 26
School of Dentistry Alumni Society Board Meeting

Meeting: 2:00 p.m.

April 27
Dental Hygiene Alumnae Luncheon
12:00 p.m.
317 on Rice Park
Saint Paul, Minn.

April 27
Dean's Reception and Alumni Award Recognition
5:30 p.m. to 7:30 p.m.
Saint Paul Hotel
Saint Paul, Minn.

For information, call:
Debby Chapman
(612) 626-4184
chapm156@umn.edu

MAY 2012

May 4-8
American Association of Orthodontists
Honolulu, HI

Alumni Reception
May 5
Immediately preceding opening ceremony, AAO Annual Session
2:45 p.m. to 4:30 p.m.
Hilton Hawaiian Village—Lagoon Green Room
Honolulu, HI

For annual session information:
(800) 424-2841

For Alumni Reception information, contact:
Laura Narhi
(612) 625-5751

May 11
School of Dentistry Graduation
3:00 p.m.
Mariucci Arena
Minneapolis, Minn.

May 18
South Dakota Dental Association Annual Meeting
Sheraton & Convention Center
Sioux Falls, S.D.

Alumni Reception
5:00 p.m. to 6:30 p.m.
Location to be announced

For annual meeting information:
(605) 224-9133

May 24-27
American Academy of Pediatric Dentistry Annual Session
San Diego, CA

Alumni Reception
To be announced

For annual session information:
(312) 337-2169

May 25-27
Montana Dental Association Annual Meeting
Missoula Hilton Garden Inn
Missoula, Mont.

Alumni Reception
To be announced

For annual session information:
(406) 443-2061

For more information

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

Laura Narhi
Alumni Relations and Community Engagement
(612) 625-5751
narhi@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

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.)

FEBRUARY 2012

Clinical Grand Rounds for the Dental Team: Trauma/Implants/Prosthetics
February 2

Troubleshooting Clinical Endodontics
February 3

Providing Quality Affordable Dentures: A Hands-On Program (Weekend One)
February 4-5

17th Annual Ski & Learn: Steamboat Springs, Colorado
February 9-11

University Gold Orthodontic Study Club (Session Three)
February 10

Postgraduate Program in Esthetic Dentistry: Level I—Lecture/Laboratory Series (Weekend Three)
February 10-12

Postgraduate Program in Esthetic Dentistry: Level II—The Patient Series (Weekend Three)
COURSE THREE: Direct & Indirect Restorations
February 10-12

Interpreting Panoramic X-rays: A Practical Guide
February 17, 2012

Winter Dental Hygiene Seminar: Protocols in Dental Hygiene Practice
February 17

Providing Quality Affordable Dentures: A Hands-On Program (Weekend Two)
February 18

Restorative Expanded Functions Review
February 24

Ergonomics & Safe Patient Handling: A Hands-On Program for the Dental Team
February 25

MARCH 2012

Removal of Bond Material with Rotary Instrumentation: A Hands-On Program
March 1

Clinical Grand Rounds for the Dental Team: Esthetic Dentistry
March 1

Ethics in Dentistry: A Case-Based Approach
March 2

Miniresidency in Pediatric Dentistry
March 2-4

Interpreting Cone Beam CT Images: An Interactive Workshop
March 9

Contemporary Periodontics & Implant Management
March 9

Periodontal Crown Lengthening: A Lecture & Workshop
March 10

Caries Risk Assessment & Restorative Options for the Pediatric Patient
March 16

Medical Emergency Management for the Dental Team
March 23, 2012

Dental Implants & Esthetic Dentistry—Postgraduate Program in Esthetic Dentistry: Level III (Weekend Two)
March 29-31

8th Annual Dean's Day: Dental Research Updates from the U of M
March 30

APRIL 2012

Clinical Grand Rounds for the Dental Team: Oral Cancer
April 5

Spring Recordkeeping Workshop for the Dental Team
April 12

University Gold Orthodontic Study Club (Session Four)
April 13

Postgraduate Program in Esthetic Dentistry: Level I—Lecture/Laboratory Series (Weekend Four)
April 13-15

Postgraduate Program in Esthetic Dentistry: Level II—The Patient Series (Weekend Four)
COURSE THREE: Direct & Indirect Restorations
April 13-15

Orthodontic & Periodontal Esthetics—Postgraduate Program in Esthetic Dentistry: Level III
April 18-21

MAY 2012

Spring Core Competency Day
May 11

Dental Hygiene Refresher: A Hands-On Program
May 14-18

JUNE 2012

Local Anesthesia Refresher: A Hands-On Review
June 1

Practical Periodontics: A Hands-On Nonsurgical Program
June 13-15

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

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