Dental School Administrators, Faculty in IADR/AADR Leadership Roles

University of Michigan School of Dentistry administrators and faculty members have assumed leadership roles in prominent research organizations in recent months.

This summer, Dr. Stephen Bayne, chair of the Department of Cariology, Restorative Sciences, and Endodontics, became president of the 11,000 member International Association for Dental Research.

Established in 1920, IADR’s missions are to advance research and increase knowledge to improve oral health worldwide, support, and represent the oral health research community, and enhance communicating and applying research findings.

The largest component of IADR is the U.S. section, the American Association for Dental Research. Bayne served a one-year term as AADR president from 1998 to 1999.

Dr. Brian Clarkson was installed as AADR vice president after the group’s annual meeting this spring in Orlando, Florida. He will become the 37th president of the organization in 2008.

Dr. Paul Krebsbach, chair of the Department of Biologic and Materials Sciences, has been nominated for AADR treasurer. Recently appointed to serve a three-year term on IADR’s Hatton Awards Committee, he is currently serving a three-year term as a member of AADR’s Constitution Committee.

Another School of Dentistry faculty member, Dr. Renny Franceschi, chairs the National Institutes of Health’s Skeletal Biology, Structure, and Regeneration Study Section. The group reviews NIH grant applications and proposes studies on bone development, biomechanics, and regeneration.

Polverini, Dennison Receive Research Awards

Dr. Paul Krebsbach, chair of the Department of Biologic and Materials Sciences, has been nominated for AADR treasurer. Recently appointed to serve a three-year term on IADR’s Hatton Awards Committee, he is currently serving a three-year term as a member of AADR’s Constitution Committee.

Another School of Dentistry faculty member, Dr. Renny Franceschi, chairs the National Institutes of Health’s Skeletal Biology, Structure, and Regeneration Study Section. The group reviews NIH grant applications and proposes studies on bone development, biomechanics, and regeneration.

Polverini Receives Top IADR Award

School of Dentistry Dean, Dr. Peter Polverini, received one of 15 top research awards from IADR during the organization’s annual meeting this summer in Brisbane, Australia. He was presented with a Distinguished Scientist Award during the organization’s opening ceremonies in June.

Polverini was honored for his contributions to oral medicine and pathology.

In addition to his administrative role as dean, Polverini also teaches pathology and diagnoses specimens submitted to the School’s oral pathology biopsy service. (See page 23.)

“Peter is in a very select group,” said Dr. Stephen Bayne, IADR president and chair of the School’s Department of Cariology, Restorative Sciences, and Endodontics. “This award and the others represent the supreme acknowledgement of the great research contributions of our more than 11,000 members.”

**Research News**

**Dennison Receives Floyd Peyton Award for Clinical Research**

Dr. Joseph Dennison recently received a national award named for a former School of Dentistry faculty member.

Dennison was presented with the *Floyd Peyton Award for Clinical Research* at this spring’s annual meeting of the American Association of Dental Research.

Presented every three years by AADR’s Dental Materials Group, the award recognizes the late Dr. Floyd Peyton, a pioneer in dental materials, who chaired the School’s department of the same name from 1948 to 1969. His textbook, *Restorative Dental Materials*, published in 1960, was one of the most widely used in the field and is still being revised for use today.

The first to receive the award, back in 1992, was Dr. Gerald Charbeneau (DDS 1948), who also conducted research and taught in the departments of dental materials and operative dentistry in the 1950s.

“It was a great honor to be recognized and follow in the footsteps of such outstanding academicians,” Dennison said. “Gerry was my faculty mentor for fifteen years, and I replaced him as chair of the Department of Operative Dentistry when he retired in 1987.”

Dennison, the Marcus L. Ward Professor of Dentistry in the Department of Cariology, Restorative Sciences, and Endodontics, joined the U-M faculty as an assistant professor in 1971. He was named associate professor in 1974 and professor four years later.

**Research Focus**

For more than three decades, Dennison’s focus has been on clinical and applied research pertaining to dental materials.

His laboratory studies have involved adhesive luting agents, composite resins, amalgam, endodontic posts, extraoral shade matching systems, ceramic core materials, the mechanics of restoration wear, and the release of fluoride from materials into tooth structure.

Dennison’s long-term longitudinal clinical studies have been conducted on pit and fissure sealants, posterior composite resins, vital bleaching, caries diagnosis, direct CAD/CAM restorations, patient priorities in treatment decisions, and tissue reactions to laminate veneers.

A major five-year study supported by NIH is being completed to assess the relationship between margin breakdown of adhesive restorations and recurrent caries.

Peyton was among the first 18 individuals to be inducted into the School’s Hall of Honor in September 2003.  *[DentalUM, Fall 2003, pages 12-24.]*

---

**STRONG Performance**

Below are the number and percentage of AADR Student Research Fellowships that have been presented in the past six years to U-M School of Dentistry dental students:

- **2006**: 8 awards received, 19 awards presented, 42%
- **2005**: 5 awards received, 18 awards presented, 28%
- **2004**: 9 awards received, 20 awards presented, 45%
- **2003**: 9 awards received, 22 awards presented, 41%
- **2002**: 4 awards received, 22 awards presented, 18%
- **2001**: 7 awards received, 24 awards presented, 29%
Dental Students Win 42% of AADR Fellowships

U-M School of Dentistry students continued their impressive showing at the annual meeting of the American Association of Dental Research. This year, they won more than 40 percent of the organization’s research Fellowship awards. On this page and others are the winners, their advisors, and a brief description of their projects.

Student: Johnson Miin
Mentor: Dr. Stephen Feinberg
Project Title: Oral Mucosal Progenitor/Stem Cells Separated by Gravity-Assisted Cell Sorting

What the Project’s About: This study isolates a progenitor/keratinocyte stem cell population from oral mucosa based on cell size for use in the laboratory fabrication of a human tissue-engineered oral mucosa. Isolating the progenitor/stem cells is done consistent with FDA regulatory guidelines so fabricated tissue engineered oral mucosa can be used for intraoral grafting procedures for patients with oral mucosal deficiencies.

Student: Steven Obreiter
Mentor: Dr. David Kohn
Project Title: Effects of Age and Mechanical Properties and Fatigue-Induced Microdamage of Bone

What the Project’s About: This research continues previous work that showed exercise reduced skeletal fragility in adolescent mice. This study now seeks to define relationships between age and the ability of bone to withstand repetitive forces and to determine if mechanical loading has the same beneficial effect in older subjects as it does in younger ones. By better understanding the properties of bone that change with age, it may be possible to develop preventive measures to counteract these changes and reduce susceptibility to fracture. It may also give insights into dental implants and orthodontic procedures.

Student: Kalisha Morin
Mentors: Drs. Marita Inglehart and Robert Bagramian
Project Title: Bringing Dental Care to Underserved Populations: Exploring the Potential of Utilizing Mobile Dental Units

What the Project’s About: This project explores the challenges and benefits of using mobile dental units to bring oral health care to those who do not have access to such care. Colleges and universities offering dental and dental hygiene programs are surveyed to learn how they may be using these units in their programs. We hope the findings will help educators and practitioners give consideration to using these units in the future if they are not already doing so.
Student: Katie Miettunen  
Mentor: Dr. Tilly Peters  
Project Title: The Effect of Sonication on the Bond Strength of Glass Ionomer to Dentin  

What the Project’s About: Although glass ionomers are the only filling materials that are cariostatic and chemically bond to teeth, they still lack mechanical strength. This project investigates how ultrasonic command-set influences dental adhesion. Although Peters’ group has studied the effects of sonication on marginal seals, this project also examines how ultrasonic accelerated setting of glass ionomers influences their adhesion to dentin which is important for sealing and protecting tooth tissues from recurring decay.

Student: Abra Jay Essad  
Mentor: Drs. Marita Inglehart and Robert Bagramian  
Project Title: Alcohol Abuse and Dependency – Dental Care Providers’ Knowledge and Actions  

What the Project’s About: Dentists are in a unique position to educate, prevent, and identify alcohol use and abuse in their patients. However, to date, no prior study has assessed whether dentists are aware of alcohol abuse among their patients, or if they advise and/or properly refer those patients who are affected. Five hundred Michigan dentists will be surveyed to evaluate how professional behavior, a provider’s knowledge, and demographics affect a dentist’s attitude about alcohol and alcohol abuse.

Student: Stacy Baker  
Mentor: Dr. William Giannobile  
Project Title: Evaluation of ICTP as a Chairside Diagnostic for Active Periodontitis  

What the Project’s About: This research study will examine how a bone-specific biomarker, ICTP, can be used to predict periodontal disease activity. After patient samples are collected, they will be analyzed by a prototype, handheld, portable device that can rapidly measure this protein from saliva. Approximately 90 patients will participate in the clinical trial. It is hoped this test will help identify patients with periodontal disease and other diseases of bone metabolism, such as osteoporosis and arthritis.

Student: Thien-Thao Thi Lee  
Mentor: Dr. Renny Franceschi  
Project Title: Regulation of the Dlx3 Homeodomain Protein During Osteoblast Differentiation  

What the Project’s About: This project investigates how bone formation is controlled by the Dlx family of transcription factors. These molecules control the activity of specific genes to tell a stem cell to become a bone cell. They are especially important in the formation of cranial and dental tissues.
Stem Cells: Why the Interest?

By Karl Leif Bates, U-M Life Science Communications

Stem cells are the blank slate of biology, capable of forming all kinds of replacement tissues for cells lost to injury or disease. These cells are found throughout the human body at all stages of life, not just during embryonic development.

Scientists have distinguished between two different types of stem cells: embryonic and adult. Basically, embryonic stem cells are those that can become any cell in the body.

Adult stem cells exist in mature tissues and typically make cells for one particular tissue.

What has researchers all over the world so excited about stem cells is the tantalizing possibility that we might learn how to communicate with these cells to make them form specific tissue types or build entirely new structural (body) parts.

Dentists, having the longest experience making replacement parts for the human body, are, not surprisingly, at the forefront of stem cell science at Michigan.

Dental School Research

“Can we use these cells to fix craniofacial defects?” asks Dr. Cun-Yu Wang, the Richard H. Kingery Professor of Dentistry in the Department of Biologic and Materials Sciences. “Can we add growth factors to make stem cells more productive? Give us one or two years, and we’ll have a better story.”

Dr. Paul Krebsbach, the Roy H. Roberts Professor of Dentistry and chair of the Department of Biologic and Materials Sciences, has been exploring the “micro-environment” immediately surrounding stem cells: the signals they receive, and who their neighbors are. “What the cell sticks to can make a huge difference,” Krebsbach says. “We don’t yet have that exquisite control over what a stem cell might become.”

Krebsbach’s team is working on a new kind of “feeder layer” to support embryonic stem cells in a culture dish, while preventing them from differentiating into specific cell types. The Wisconsin team that pioneered this work had used mouse cells for the feeder layer, and as a result the twenty or so remaining embryonic stem cell (ESC) lines that are still eligible for federal funding have become contaminated with mouse proteins.

“If we can control the feeder layer, we can control what the ESCs see,” Krebsbach explains. “We can influence changes in the ESCs by changing the feeder layer, but we don’t have good control yet.”

Student: Jamie Scott Luria
Mentor: Dr. Paul Krebsbach
Project Title: Biological Effects of Bone Morphogenetic Proteins in Oral Cancer Cells

What the Project’s About: This project will use bone morphogenetic proteins (BMPs) to reconstruct craniofacial and mandibular defects due to ablative cancer surgery. These proteins have powerful bone-forming activity and have already led to dramatic improvements in treating patients with orthopedic problems. BMP use in oral cancer defects is currently contraindicated due to uncertainties whether these proteins have adverse biologic effects on human oral squamous cell carcinoma or contribute to tumorigenesis. The project will test the hypothesis that BMPs do not produce adverse biologic effects on oral squamous cell carcinoma or enhance the growth of residual tumor cells.
In related work, Peter Ma, associate professor of Biologic and Materials Sciences, has been growing human embryonic stem cells on plastic scaffolds impregnated with various biochemicals to see how they respond to that sort of microenvironment. “There are two things we need to do,” Krebsbach says. “We need to understand the biology of cell development in disease and normal conditions, and we need to get control of these processes so that we can think about therapeutic interventions.”

Precise understanding and control of stem cell lines may also become very useful for testing the safety and effectiveness of new drugs. A lab-dish model of a human disease using actual human cells would be far superior in many cases to testing on a animal that mimics the disease, as we do now.

Interestingly, Michigan’s Comprehensive Cancer Center researchers have also found stem cells in tumors that may be the driving force in cancer’s aggressive growth and spread. If that’s true, a therapy focusing on just these cancer stem cells could be a more effective and less harrowing way to beat cancer. A company has been formed, OncoMed, to pursue that strategy.

Science, Politics, Ethics

Not only is the science of stem cells difficult, but the funding and politics have become so too.

Though commonly referred to in the press as simply “stem cells,” the hot-button issue is specifically the embryonic stem cells, so-called because they can be derived from a test tube embryo in a fertility clinic five days after sperm meets egg. This is the same point of in vitro fertilization (IVF) at which a fertility clinic selects which of the microscopic, ball-like embryos to implant into a woman for an attempted pregnancy, putting the rest into long-term frozen storage.

There are an estimated 400,000 such IVF embryos in storage in the U.S. Many thousands are destroyed each year as couples decide not to try to get pregnant again. Stem cell scientists are proposing using some of these five-day embryos — already slated for disposal, and with the explicit permission of the parents — to create new stem cell lines for research and possible therapies.

To some, this seems to be tampering with nascent life. To others, the practice is more akin to organ donation.

In Michigan, it is illegal to take cells from a five-day embryo, even one that is slated to be destroyed. (The destruction itself is entirely legal, however.) In an attempt to compromise on this hot-button issue, President George W. Bush issued an order in August 2001 that the federal government would not fund any research on embryonic stem cell lines created after that date.

Because of the state laws, U-M scientists cannot create new lines of embryonic stem cells, relying instead on cells purchased from other institutions, most notably the University of Wisconsin, where embryonic stem cells were first isolated and cultured.

Still, U-M remains a leader in stem cell research of all kinds. The U-M Exploratory Center for Human Embryonic Stem Cell Research in the Medical School is one of just six core laboratories in the country funded by National Institutes of Health to maintain human embryonic stem cell lines. This is a core lab for the entire U-M campus that monitors stem cell colonies to ensure they remain free from chromosomal anomalies or infection, and provides training and cells to U-M researchers, including Dentistry’s Cun Yu Wang and Paul Krebsbach.

The U-M Center for Stem Cell Biology (CSCB), housed in the Life Sciences Institute, is focusing on stem cells to answer fundamental scientific questions, such as how stem cells become specific types of tissues and how to identify and selectively destroy the stem cells found within cancerous tumors. This lab’s focus is basic biology that might provide insights and breakthroughs leading to new treatments.

Although CSCB currently focuses on adult stem cell research, it isn’t limited to any particular type of stem cell research and hasn’t ruled out embryonic stem cell work. Recruitment is now underway for seven new faculty to work in the center and their research priorities will set the center’s direction.

For more information on the science and policy of Stem Cells, please see the Web site: lifesciences.umich.edu.
A drug jointly developed by University of Michigan School of Dentistry and College of Pharmacy professors, along with scientists from a pharmaceutical company, was recently found to be safe and effective against a virus that is common in patients who undergo bone marrow transplants.

The antiviral drug, maribavir, was found to be safe and effective in preventing cytomegalovirus (CMV) infection in stem cell transplant patients in a Phase II clinical trial that recently ended. The study was conducted on 111 patients at 13 transplant centers across the U.S.

In the 1980s, John Drach, a biochemist, virologist, and professor in the School of Dentistry and the College of Pharmacy, along with Leroy Townsend, now professor emeritus of medicinal chemistry in the College of Pharmacy and professor emeritus of chemistry in the College of Chemistry in LS&A, began a search to find drugs to treat CMV infections. Their studies, along with work conducted by scientists at what was then the Burroughs Wellcome Company, led to the development in the 1990s of maribavir, a drug that confines its antiviral activity to the nucleus of an infected cell without affecting healthy cells. The drug is now licensed to ViroPharma, a developmental company whose principal activity is discovering and developing antimicrobial medicines.

The 111 participants who were randomly selected received either a placebo or one of three doses of maribavir for up to 12 weeks. If a virological initial indication of CMV infection was detected, these patients were taken off the drug or the placebo and then managed according to current practices.

However, the study showed that far fewer patients who received maribavir showed initial signs of infection than patients receiving the placebo. “We could not have hoped for better results, as these data show that treatment with maribavir dramatically reduces CMV reactivation in these very sick patients. In fact, the only cases of CMV disease in this trial occurred in the placebo group; there were no cases of the disease in subjects who received maribavir,” said Colin Broom, ViroPharma’s chief scientific officer.

May Change Treatment Approach

The results could potentially change the current approach to treatment that finds physicians usually waiting until CMV can be detected in the blood, indicating the virus is multiplying, before beginning treatment.

CMV is part of the herpes virus family, which also includes the viruses that cause chicken pox, mononucleosis, cold sores, and genital lesions. In most people with intact immune systems, CMV causes little or no apparent illness. However, in those with weakened immune systems, such as individuals who have received organ transplants, AIDS patients, and newborns, CMV can lead to serious complications or death.

Although the Food and Drug Administration has given maribavir “fast track” status, Drach said, “There’s still a way to go before maribavir can be marketed. But the results are exciting news.” Phase III studies should begin later this year.
Imagine this approach for dealing with toothache pain…

In the not-too-distant future, a patient visits his or her dentist seeking to minimize such pain…or to eliminate it entirely.

To help the patient, the dentist, and others across the country, are using a novel approach of dealing with such pain based on the research that took place in University of Michigan School of Dentistry research laboratories.

The new method the dentist uses involves applying an opiate, or a yet-to-be-discovered or manufactured biological agent that would trigger the release of endorphins in the patient’s mouth.

The endorphins would not only control the pain, but also work in a way allowing the pulp to recover and repair itself.

Sound far-fetched?
Perhaps not.

For decades, attempts have been made to link the experience of pain with specific changes in the injured pulp. However, little useful information has been produced.

That is, until now.

Possible Clinical Implications

In April, the School of Dentistry’s Dr. Rex Holland, and a former graduate assistant in his research laboratory, Dr. Angela Mudie, published a paper in the Journal of Endodontics that could, one day, make that imagined visit to the dentist a reality.

“We discovered evidence that within the tooth pulp there is a mechanism that triggers the release of endorphins, the chemical that produces what is often referred to as ‘runner’s high’,” said Holland, a professor in the Department of Cariology, Restorative Sciences, and Endodontics.

“The clinical implications of this discovery,” he said, “could lead to a new approach in the way dentistry is practiced.”

As Holland described it, opiates, such as morphine, could be effectively applied to the pulp that would mimic a local release of endorphins in a patient’s tooth.

“What I see happening is that dentists may not only be able to control the toothache, but also do this in such a way that would allow the pulp to recover and repair itself,” he said.

Working with Mudie and colleagues at the University of Florida, Holland theorizes that the pain patients experience from pulpitis varies because the level of opioids varies. “Pain is an experience rather than a simple sensation, and is subject to modulation,” he wrote in the journal article.

Possible Benefits

Holland sees several benefits from this research.

Not only will the pain experienced from pulpitis be better understood, but “it will also lead to more accurate diagnoses of the condition of the pulp,” he said. “Teeth that are now extracted or treated by root canal therapy might be treatable by a more conservative and much less invasive and expensive approach.”

Holland’s interest in this area was sparked nearly forty years ago while conducting research as an undergraduate dental student at the University of Bristol in the U.K. He plans to conduct further research on the subject during his sabbatical at Loma Linda University’s Department of Endodontics in California.

Mudie practices endodontics in Grand Rapids, Michigan.
Karl Wins Dziewiatkowski Award

It’s been quite a year for Elisabeta Karl, a researcher in the School’s Oral Health Sciences PhD program.

In March, she won a first place Pfizer Hatton Award during the spring meeting of the American Association of Dental Research. [DentalUM, Spring & Summer 2006, page 74.]

A short time later, she received the Dziewiatkowski Award for research excellence.

Established in 1989, the award honors the memory of Dr. Dominic J. Dziewiatkowski, a School of Dentistry researcher, faculty member, and department chair who was world-renowned for his research on bone and cartilage metabolism, connective tissue biochemistry, and the role complex proteins play in bone calcification. [DentalUM, Fall 2005, pages 74-75.]

Each year, the award is given to an outstanding student researcher by Dziewiatkowski’s daughter, Jane Damren, and her husband, Samuel Damren. The recipient also receives $800.

Karl’s research seeks to determine what role, if any, two proteins play in angiogenesis, the formation and growth of new blood vessels from existing ones. The process helps the body repair itself following injury. However, in other instances, and for reasons that are still unknown, angiogenesis can contribute to the growth of cancers, such as oral cancer.

“My research focuses on the role two proteins, Bcl-2 and Bcl-xL, work together or how they may work independently, to induce the formation of new blood vessels,” she said. Karl said her research differs from most research in this area which tends to focus on cell survival.

Karl’s mentor is Dr. Jacques Nör, an associate professor of dentistry, who won the Dziewiatkowski Award in 1998.

Pettway Wins UNCF-Merck Graduate Science Research Dissertation Fellowship
One of 12 Nationwide to Receive Major Honor

A biomedical engineering doctoral student who is conducting research in the laboratory of a School of Dentistry department chair was one of only 12 persons nationwide to receive a prestigious award from the United Negro College Fund and Merck, a global research-driven pharmaceutical company.

Glenda Pettway was recently selected for the UNCF/Merck Graduate Science Research Dissertation Fellowship. She is one of only 12 persons nationwide to receive a major honor.

Glenda Pettway, a biomedical engineering doctoral student, is one of only 12 persons nationwide to receive the prestigious UNCF/Merck Graduate Science Research Dissertation Fellowship for her academic and scientific achievements. UNCF and Merck established the award to help increase the number of African Americans in biomedical science education and research.
Research News

**Strong Interest in Math and Science**

A chemical engineering major as an undergraduate, Pettway said she has always had a strong interest in math and science. In college, she was an intern with companies in the chemical and biomedical device industries, and worked in manufacturing, research, and development environments. “I really enjoyed research and determined that I wanted to conduct research in an area that would improve the quality of life for people,” she said.

Using those experiences as a springboard, Pettway attended graduate school and gravitated to biomedical engineering, combining engineering principles and biology to help solve biological problems.

“When I started graduate school, I knew I wanted to do research in biotechnology/tissue engineering, but didn’t know in what area specifically,” she said. After meeting with several professors to discuss their research interests, she decided to work with McCauley. “I really enjoyed working in her laboratory while pursuing my master’s degree and decided to continue working there as a doctoral student,” Pettway added.

The company also awarded $10,000 to the School’s Department of Periodontics and Oral Medicine to purchase research supplies.

**More Child Abuse and Neglect**

The results of a study conducted by a second-year dental student at the University of Michigan School of Dentistry may prompt dentists, dental hygienists, and other oral health care professionals to pay closer attention to their youngest patients who could be victims of child abuse and neglect.

The student, John Thomas, said dental care providers and students are likely to encounter child abuse victims in their professional lives.

However, the results of his study revealed that not all providers and students have the necessary knowledge to fulfill their legal and professional responsibilities.

**Uniquely Positioned**

Citing statistics from the U.S. Department of Health and Human Service’s National Child Abuse and Neglect Data System, Thomas noted that approximately 1,500 children died as a result of abuse or neglect in the U.S. in 2003, the year for which most-recent statistics are available.

Thomas said oral health care professionals are in a unique position to spot abuse and make a difference.

“Research shows that parents or guardians who abuse their children might change their child’s pediatrician, but they are likely to continue visiting the child’s dentist,” he said. “These visits offer dental providers opportunities to recognize and report suspected cases of child maltreatment.”

Thomas said his study showed that more than 82 percent of dental professionals knew they had to report suspected cases of child abuse and neglect, compared to 72 percent of dental and dental hygiene students. But only 28 percent...
Neglect Awareness Needed Among Dentists and Dental Hygienists

The research of second-year dental student John Thomas, conducted with help from his faculty advisor, Dr. Marita Inglehart, may prompt dentists, dental hygienists, and other oral health care professionals to pay closer attention to their youngest patients who could be victims of child abuse and neglect.

of dentists and dental hygiene professionals, and only 18 percent of dental and dental hygiene students knew where or to whom to report suspected cases of child abuse and neglect. In Michigan, all suspected cases of child abuse and neglect are to be reported to the county office of Children’s Protective Services, an agency of the Michigan Department of Human Services. The department’s Web site has information about where to report abuse and neglect in each county in Michigan: www.michigan.gov/dhs/0,1607,7-124-5461--,00.html.

Thomas said that while dentists and dental hygienists recognized clinical symptoms that would suggest child abuse, they did not always know their legal or ethical obligations to report their findings or suspicions. “In some cases, oral health care professionals wonder if reporting suspected cases will be handled anonymously,” he said. “Others wondered if reporting suspected cases of child abuse or neglect will adversely affect them professionally or personally. In other instances,” he added, “some might even fear to be stigmatized if they report these cases or feel that they do not know enough to report instances of abuse.”

More Education and Awareness

Thomas suggested devoting more attention in the classrooms, clinical settings, and in continuing education courses about what should be done. “Dental providers must have a plan in place to address child abuse and neglect should it present itself in their practices,” he said.

Thomas recommended all members of the dental office be prepared to know what to do when signs of abuse and neglect are detected, including knowing what information should be reported, how it should be reported, and what agency or agencies should receive the information.

In 2002, he noted, all dental schools in the U.S. and Canada included child abuse education in their curricula. “However, this statistic does not necessarily demonstrate that dental schools provided their students with any clinical or actual experiences involving child abuse and neglect,” Thomas said.

“The results of this study show this project has both classroom and clinical implications,” he said. “It also shows an interrelationship between what happens in communities and how future dentists and dental hygienists should receive better training to spot and deal with child abuse and neglect.”

The results of Thomas’s survey are based on anonymous responses to questionnaires received in April 2005 from nearly 700 individuals – 379 general dentists who were members of the Michigan Dental Association and dental hygienists who were members of the Michigan Dental Hygienists Association, as well as 309 dental and dental hygiene students at the School of Dentistry.

Results Published

Thomas’s work won third place in the AADR’s National Student Research Group Caulk/Dentsply Competition during the annual meeting of the American Association of Dental Research this spring. In addition, articles detailing his work were published in the May issue of the Journal of Dental Education and this fall in the Journal of Pediatric Dentistry.

“Publishing these findings in two journals and winning an award during a national meeting are pretty unusual for a second-year dental student,” said Dr. Marita Inglehart, Thomas’s research advisor. “John’s work shows that what we learn from practicing professionals could have a direct impact on the education our students receive in the classroom.” Inglehart added that this is another example of the impact the dental School’s student research program can have on students and the profession.
Dr. Darnell Kaigler, who simultaneously pursued and earned a dental degree and PhD in Oral Health Sciences at the U-M School of Dentistry, recently won a major award from the American Academy of Periodontology Foundation.

This spring, he received a $15,000 Abram and Sylvia Chasens Teaching and Research Fellowship from the Foundation. The fellowship is awarded to periodontal students who plan to pursue a career in periodontal teaching and research in the U.S. To be considered, a candidate must be a third-year student in an accredited periodontal post-doctoral training program.

“The award has definitely instilled some gratification and satisfaction in knowing that my interests in research and teaching have been recognized,” Kaigler said. “In our profession, particularly periodontics, one can do extremely well and live comfortably as a private practitioner. But when one chooses teaching and research, they make a commitment to service that, to some extent, may lead to some financial sacrifices.”

Kaigler noted an additional benefit of receiving the Chasens Award is the “intangible gratification that lets you know you’re contributing to the advancement of the profession.”

After completing his research fellowship early next year, Kaigler said he will begin searching for an academic position at the School of Dentistry or elsewhere. “Michigan is definitely at the top of my list,” he said.

Kaigler completed the School of Dentistry’s rigorous dual-degree DDS/PhD program [DentalUM, Fall 2004, pages 68-69].

The dual-degree program, which is a part of the Rackham School of Graduate Studies, is for students interested in combining dental and oral health research careers. Designed to be completed in about eight years, the program includes courses leading to the DDS degree, graduate science courses, and clinical research experiences.

Kaigler earned his DDS in 2002 and his PhD two years later.

This is not the first time the Chasens Fellowship has been presented to someone from the U-M School of Dentistry. Three years ago, Drs. Ricardo Gapski and Yong-Hee Chun received the award. [DentalUM, Fall 2003, page 75.]