

The five-year track: why research is important to me

By Kyle Holmberg, Minnesota '14

Getting into dental school is tough. Dental school itself is even harder. Leonardo da Vinci might not have perfected a maxillary first molar wax-up on his first try. It takes more than conventional wisdom to consider extending dental school an extra year to do a research fellowship after boards, competencies and hundreds of start-checks.

Last December I could not envision such a path. Now I find myself in Bethesda, Md., thousands of miles away from the land of 10,000 lakes. The closest Minnesota connection I can find is the cousin-club of the Minnesota Twins, the Washington Nationals. I quickly forgot the preconceived onus of an additional year after I interviewed for the inaugural Medical Research Scholars Program (MRSP) in March. I was impressed by the NIH researchers' commitment to the development and mentorship of students. Four dental students from across the country are at

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the NIH this year as fellows in the MRSP, a one-year research-training program for 45 medical, dental and veterinary students interested in academic research. Students were chosen from a competitive national pool of applicants. They take one year off from their school curriculum to conduct basic science, clinical or translational research at the NIH in areas that match their interests and research goals. Program benefits include reimbursement for moving expenses, medical insurance coverage, a stipend for living expenses and a personal educational budget.

The MSRP at the NIH gives me unparalleled mentorship and research opportunities in stem cell and developmental biology to add to my background in biomaterials. This program is critical to guide and shape my career, which aims toward academic oral surgery and bioengineering of regenerative materials for craniofacial applications. Robert Vander Broek (Michigan '14), Kelly Leong (Tufts '14), and Nicholas Snider (Boston '13) are the other dental students joining me on this exciting journey.

Michigan dental student Vander Broek expresses that, "while dental school has provided me excellent experiences in oral health sciences research, the intramural community at NIH is unlike other academic environments in its funding mechanisms, breadth and depth of research, and collaborative potential."

So why does this matter to you? There is no doubt G.V. Black would be flattered to see his Class II preps on PowerPoint slides well into the

21st century. He would also be surprised that we still treat caries largely the same way. While most dental students will not pursue careers in basic science research, the profession will be better off with clinicians who are aware of and value their profession's scientific contributions to society, which translate to clinical innovations and elevated public reputation and trust.

"The future of medicine and dentistry relies on clinicians with critical thinking skills in science to help translate advances in personalized medicine and diagnostics to the clin-



NIDCR students from left to right: Robert Vander Broek, Michigan '14; Kelly Kimiko Leong, Tufts '14; Kyle Holmberg, Minnesota '14; Dr. Martha Somerman, Director of the NIDCR; and Nicholas Snider, Boston '13.

ic," said Dr. Martha Somerman, director of the National Institute for Dental and Craniofacial Research (NIDCR), in her address to the American Association for Dental Research (AADR) at the Annual Meeting in March. Dentistry is distinct from medicine in that most practitioners are in general practice. The average American likely sees his or her dentist more than their primary care doctor. One can see the broad reaching impact basic science advancements can have on clinical dentistry.

David NedreLOW, Minnesota '13, president of the Minnesota Dental Student Research Group (MSRG), commented on his vision for research-orientated clinicians: "Those who can identify relevant clinical problems, carry out a study that proves a novel approach, and finally adapt a new treatment option are the ideal clinicians of tomorrow."

Research-minded clinicians benefit dental practice and education. You don't have to do a fellowship or Ph.D. to participate in significant, relevant

research. In dental school, be curious, ask questions and seek knowledge. As a dentist, be critical of information from colleagues, continuing education and industry. This year, the NIDCR funded the National Dental Practice-Based Research Network, which enlists general dentists and specialists to run clinical studies from their own patient populations. You can get involved now as a dental student by joining the research network to stay informed. We are the future of clinically based research for advancing dentistry.

No one can predict the state of health care and dentistry in 20 years. The day we embrace dentistry as just drill-fill-and-bill is the day we and our patients lose. We are the consumers driving the market for dental education. Our decisions and values will guide public support. The next time you are waiting for a prep check, ponder where you want yourself and your profession to be in 20 years. You might surprise yourself. **N**



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