Dr. Robert Genco (GD’67, GR’67), SUNY Distinguished Professor of Oral Biology and Microbiology and Vice Provost of Science Technology Transfer and Economic Outreach at the University of Buffalo, splits his time between teaching and research, and his 35 years as a practicing periodontist have helped influence both. “My work is grounded in ideas that will ultimately benefit the patient,” says the veteran researcher.

Among his significant research interests are the identification and study of risk factors that predict periodontal disease and the use of tissue engineering in regenerating bone in patients. These projects, and others, have led Dr. Genco to publish nearly 260 research papers. In addition, his current job involves teaching periodontics to dental students and overseeing the University of Buffalo’s technology incubator, where academic researchers are supported in startup businesses based on their discoveries.

A LOVE OF SCIENCE: Dr. Genco attributes his early interest in science to teachers, including an excellent high school biology and chemistry instructor in his home town of Silver Creek, N.Y., and a college botany professor who offered him the chance to work with algae in the lab. “I guess you could say I was bitten by the discovery bug,” he says of these experiences, and he has been fascinated by the scientific process ever since. “The nature of research is that there is always a new challenge,” he explains. “On any given day, you might discover something no one has ever seen before.”

An experience of another kind also shaped Dr. Genco’s career. In his youth, he “spent a lot of time in a dental chair,” and came to respect deeply the work that his dentist performed. He went on to earn his dental degree from the University of Buffalo School of Dental Medicine. There a professor introduced him to Dr. D. Walter Cohen, Dean Emeritus of Penn Dental Medicine, who at the time was director of the Penn Dental Medicine postgraduate periodontal program. Dr. Genco was intrigued when Dr. Cohen outlined a flexible course of graduate study for him at Penn, utilizing the resources of both the dental and medical schools, that would combine periodontics, with a PhD in immunology and microbiology and allow him to pursue his passion for research.

SUPPORT FOR RESEARCH: “I appreciated the strong support that Penn provided for research in a dental environment. In those days this was unique,” he remembers. “The dental school faculty were respected by the medical school faculty and treated as equals, as were the students.” From 1963–1967, he completed the postgraduate program in periodontics here, concurrently earning his PhD at Penn as well. “Penn was a true highlight of my education,” he says. “I have wonderful memories of friends and colleagues there, but most of all, I remember the excellent faculty.”

Later, hired at the University of Buffalo for a faculty position in the newly created, research-focused oral biology department, Dr. Genco began a teaching career that would span decades and help educate generations of students, bridging the educational gap between basic science and dental science. The department will celebrate the 50th anniversary of its PhD program, which Dr. Genco helped develop as a means for periodontal residents to obtain research training. 

A PASSION FOR DISCOVERY

DR. ROBERT GENCE, GD’67, GR’67
DISTINGUISHED PROFESSOR, UNIVERSITY OF BUFFALO
A MEDICAL BREAKTHROUGH: Discovering who is likely to develop periodontal disease — and why — has been one of Dr. Genco’s ongoing research interests over the years, and his results have shaped current knowledge and treatment.

“We used to think that people got periodontal disease regardless of their medical history,” says Dr. Genco, who has received 21 years of federal support to study the topic. “Gradually, our studies allowed us to identify a list of risk factors — diabetes, smoking, stress, osteoporosis, low calcium levels — that predict the prevalence of the disease.” By studying Native American populations, particularly the Pima Indians, who have a 50% incidence of Type 2 diabetes, he and his team discovered that a lack of diabetic control was linked to an increase in the severity of periodontal disease. He and his coworkers also found that those with diabetes who suffered from periodontal disease had worse diabetes, and were at greater risk of dying from heart and kidney disease than those diabetics with little or no periodontal disease. This breakthrough in the understanding of the systemic effects of periodontal disease marked the birth of modern periodontic medicine. This year, Dr. Genco was recognized for his many contributions to the understanding, prevention, treatment, and systemic consequences of periodontal disease with the American Academy of Periodontology’s Distinguished Scientist Award for 2012.

NEW IDEAS TO MARKET: In addition, Dr. Genco’s research has focused on tissue engineering, the regeneration of periodontal tissue and bone after it has been lost to periodontal disease. In collaboration with BioMimetic Therapeutics, he evaluated Gem 21, a platelet-derived growth factor (PDGF) that has been approved by the FDA for treatment of periodontic bone loss. A new dental regeneration product using fibroblast growth factor (FGF) will soon enter clinical trials. Both products allow implants to be placed in jaws weakened by periodontal disease. These are typical of the many new discoveries being brought to market by the University of Buffalo’s technology incubator, which Dr. Genco describes as “a welcoming environment for startup businesses,” including those that produce drugs, medical devices, and software.

Research results like these, directly benefitting patients, are a large part of what makes Dr. Genco’s career such a satisfying one: “I have the opportunity to truly make a contribution, to positively affect people around the globe.”

— Juliana Delany

WE WANT TO HEAR FROM YOU!

We realize there are other alumni in academic roles, this list includes those we were able to confirm for this issue, but if you are working in academia, we would like to hear from you so we can share that in a future Penn Dental Journal. Please submit your information at www.dental.upenn.edu/classnotes or alumnifeedback@dental.upenn.edu