

PROMOTION RECOMMENDATION

The University of Michigan
School of Dentistry

James Patrick Simmer, associate professor of dentistry, with tenure, School of Dentistry, is recommended for promotion to professor of dentistry, with tenure, School of Dentistry.

Academic Degrees:

BS	1976	University of Michigan
DDS	1980	University of Michigan, School of Dentistry
PhD	1990	Wayne State University School of Medicine
Postdoctoral	1993	University of Southern California, School of Dentistry

Professional Record:

Fall 1987	Teaching Fellow, Department of Biochemistry, Wayne State University, School of Medicine
Fall 1991	Teaching Fellow, Department of Craniofacial Development, University of Southern California, School of Dentistry
1993 - 1999	Assistant Professor, Department of Pediatric Dentistry, University of Texas Health Science Center at San Antonio, School of Dentistry
1999 - 2002	Associate Professor with tenure, Department of Pediatric Dentistry, University of Texas Health Science Center at San Antonio, School of Dentistry
2002 - present	Associate Professor with tenure, Department of Biologic and Materials Sciences, University of Michigan, School of Dentistry

Summary of Evaluation:

Teaching: Dr. Simmer brings a creative approach to teaching and has been imaginative in the use of new media to present material to large didactic classes, while remaining attentive in individual instruction to advanced students in his laboratory. Dr. Simmer developed a new and innovative 14-hour computer-based course entitled "Genetics in Dentistry" that received positive reviews from the associate dean for academic affairs and Curriculum Committee. The interactive, problem-based learning format of this course is truly innovative and includes actual case studies. He was assigned to teach Biochemistry 522 which he totally revamped even though he could have used presentations previously developed by other faculty. The new material provided in-depth coverage of protein chemistry, enzyme kinetics and connective tissue structure. In response to comments received, he modified the material and significantly increased positive feedback as evidenced in his student evaluations. Dr. Simmer also accepted responsibility for the direction of course 513, Biology of Salivary Glands. He extensively modified the course bringing in all new audio-visual materials and a website. For these efforts, he received

responses from students and peers that were well above average. Dr. Simmer is also an outstanding research mentor of undergraduate and graduate students, and research fellows as evidenced by the number and quality of students who have chosen him as their mentor despite the isolation of his laboratory from campus. To all of his teaching, Dr. Simmer brings his scientific expertise while also incorporating his experience as a clinician. He is a rare and gifted teacher who is not afraid to make changes in order to ultimately improve student success.

Research: Dr. Simmer's accomplishments in the area of research can only be described as extraordinary. He currently is principal investigator on two NIH RO1 grants, co-investigator on two others, and has another pending. His research focus applies expertise in protein chemistry and molecular genetics toward understanding mechanisms of tooth biomineralization. His publications are uniformly excellent in scientific quality and are extremely relevant to dentistry. As evidence of this, papers he co-authored were selected for the William J. Gies Award (best paper published for the year in the *Journal of Dental Research*) for both 2001 and 2005, certainly a remarkable achievement. He has published nearly 90 scientific articles many of which are in high profile journals such as *Proceedings of the National Academy of Sciences, the Journal of Biological Chemistry, Biochemistry, the Journal of Dental Research, Gene, and Cancer Research and Human Genetics*. His reputation as an expert on enamel and dentin proteins is also widely acknowledged and supported by the fact that he is highly cited and is routinely invited to speak at other institutions and international symposia. Dr. Simmer has demonstrated a sustained and growing record of scholarly eminence not only via publications and presentations, but also by collaboration with other recognized scholars in the United States, Japan and Korea.

Recent and Significant Publications:

1. Kim, J.W., Nam, S.H., Jang, K.T., Lee, S.H., Kim, C.C., Hahn, S.H., Hu, J.C-C., **Simmer, J.P.** A novel splice acceptor mutation in the DSPP gene causing dentinogenesis imperfecta type II, *Hum Genet* 115:248-254, 2004.
2. Yamakoshi, Y, Hu, J. C-C., Fukae, M., Kim, J-W., Zhang, H., **Simmer, J.P.** Porcine dentin sialoprotein is a proteoglycan with glycosaminoglycan chains containing chondroitin 6-sulfate, *J Biol Chem* 280:1552-60, 2005.
3. Yamakoshi, Y., Hu, J. C-C., Fukae, M., Iwata, T., Kim, J-W., Zhang, H., **Simmer, J.P.** Dentin glycoprotein: the middle protein in the dentin sialophosphoprotein chimera, *J Biol Chem* 280:17472-9, 2005.
4. Kim, J.-W., Hu, J. C-C., Lee, J-I., Moon, S-K., Kim, Y-J., Jang, K-T., Lee, S-H., Kim, C-C., Hahn, S-H., **Simmer, J.P.** Mutational hot spot in the DSPP gene causing dentinogenesis imperfecta type II, *Hum Genet* 116:186-191, 2005.
5. Kim, J-W., **Simmer, J.P.**, Hart, T.C., Hart, P.S., Bartlett, J.D., Hu, J. C-C., MMP-20 mutation in autosomal recessive pigmented hypomaturation amelogenesis imperfecta, *J Med Genet* 42:271-275, 2005.

Service: Dr. Simmer has compiled an exemplary record of service. At the department level he was advisory to clinical track search committees and is currently serving as a member on the tenure track biomaterials search committee. He serves on the School of

Dentistry Research Committee and was recently nominated to serve on the University Librarian Search Advisory Committee. He serves on the Scientific Committees for the 8th ICCBMT meeting and the Enamel VII Symposia. He has been on study sections for the NIH and is on the editorial board of the *Journal of Dental Research*. He provides peer review for the *Journal of Dental Research*, *Critical Reviews in Oral Biology and Medicine* and the *European Journal of Oral Science*, to name a few. His national and international visibility also is demonstrated by his recent election as president of the Mineralized Tissue Group of the American Association for Dental Research.

External Reviewers:

Reviewer (A)

“Dr. Simmer has a distinguished record of accomplishments and has made pivotal contributions to the field of dental enamel research. Dr. Simmer has acquired a national and international reputation in this area.”

Reviewer (B)

“Jim is well funded as a principal investigator on two ROIs and is co-principal investigator on two other ROIs. This is very impressive and speaks to the importance of his work.”

Reviewer (C)

“Today, without exaggeration, I consider Dr. Simmer the world’s foremost expert in the area of enamel biology. His reviews on enamel formation have become classics in the field.”

Reviewer (D)

“I consider Dr. James Simmer as one of the leaders in our field and his contributions to the knowledge of dental proteins are outstanding. He meets all requirements and qualifications for this position: excellence in teaching, world-wide recognized specialist in the field, outstanding contributions in the field and contribution in many services.”

Reviewer (E)

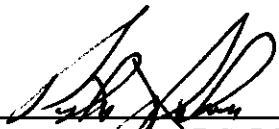
“Over the years, his study has significantly advanced our understanding of the genetic control of enamel and dentin structure. Many of his works are considered as classic literature in this field and are cited repeatedly by others.”

Reviewer (F)

“Jim Simmer is a thorough, technically skilled and solid scientist whose work in the field of enamel biology is of the highest international standard. His world-wide collaborations, high quality publications and current grant income are all testimony to the esteem in which he is held by his peers.”

Summary of Recommendation: Dr. Simmer is arguably the world’s leader in the biochemistry and genetics of the mineralized matrix of the tooth. His record of scholarly activity to date, and future potential, leaves no doubt that he is and will continue to be a leading scientist. It is with the support of the Appointments, Promotion and Tenure

Committee and the Executive Committees that I recommend him for promotion to professor of dentistry, with tenure.

A handwritten signature in black ink, appearing to read "Peter J. Polvefani", written over a horizontal line.

Peter J. Polvefani, DDS, DMSc
Dean, School of Dentistry

May 2006