PROMOTION RECOMMENDATION

The University of Michigan
School of Dentistry

Jan Ching-Chun Hu, associate professor of dentistry, with tenure, School of Dentistry, is recommended for promotion to professor of dentistry, with tenure, School of Dentistry.

Academic Degrees:

BDS	1985	National Taiwan University, School of Dentistry
Certificate	1998	University of Southern California, School of Dentistry
PhD	1999	University of Southern California, School of Dentistry
Postdoctoral	1994	University of Southern California, School of Dentistry

Professional Record:

1988-1990	Clinical Assistant Professor, Department of Pediatric Dentistry, University of Southern California (part time)
1990-1993	Clinical Associate Professor, Department of Pediatric Dentistry, Children's Hospital of Los Angeles (part time)
1993	Clinical Associate Professor, Department of Pediatric Dentistry, Long Beach Memorial Hospital (part time)
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 Orthodontics and Pediatric Dentistry, University of Michigan, School of Dentistry
July 2005-present	Director of Pediatric Dentistry, Department of Orthodontics and Pediatric Dentistry, University of Michigan, School of Dentistry

Summary of Evaluation:

Teaching: Dr. Hu is a board-certified pediatric dentist and has a PhD in Craniofacial Molecular Biology. Dr. Hu participates in teaching at both the predoctoral and graduate levels. When she first joined the Department of Orthodontics and Pediatric Dentistry, she was involved in predoctoral clinic supervision. Two years ago, she began providing clinic supervision to residents and conducting seminars on the topic of oral sedation. More recently, Dr. Hu has been appointed the director of the graduate Pediatric Dentistry Program which includes the responsibility of managing the University Hospital pediatric dental services both in the outpatient clinic and in the operating room. She provides emergency call coverage with the pediatric dental residents for the University Hospital. Dr. Hu has redefined hospital procedures and protocols such that the services are more effective and productive. Starting this winter term, she will be directing the course on the care of special patients to the residents and to junior dental students.

As a mentor, Dr. Hu has been involved in nine resident theses and in one PhD student project since coming to the University of Michigan.

Research: The major focus of her research is the genetics and the molecular and cellular mechanisms of normal and defective biomineralization of dental hard tissues. She is a patient-oriented clinician who has bridged the gap between her own basic science contributions and the clinical applications of those discoveries.

Her landmark basic science discovery was cloning the first cDNA for an important protein in dental enamel formation ("enamelin"). She followed this with the cloning of the mouse and human cDNA homologues as well as their genomic counterparts. Her paper reporting the human cDNA sequence and the chromosomal localization of the enamelin gene was presented with the prestigious William J. Gies Award for the best paper published in the *Journal of Dental Research* in 2001; this publication has the highest impact factor among all dentally-related journals. She and her colleagues repeated this accomplishment in 2005 for their paper entitled "Amelogenin p.M1T and p.W4S mutations underlying hypoplastic X-linked amelogenesis imperfecta."

In the clinical arena, Dr. Hu has been studying families with amelogenesis imperfecta or dentinogenesis imperfecta. These conditions are collections of inherited defects in enamel or dentin formation that typically affect both the primary and permanent dentitions so that the teeth are disfigured drastically. The work of Dr. Hu and her colleagues has revised the classification system for dentinogenesis imperfecta and dentin dysplasia II and has improved the clinical diagnosis of this group of defects which is an excellent example of translational research.

Dr. Hu has over 60 publications in scientific journals, including 17 written since she joined the faculty of the University of Michigan in 2002. She has nine additional manuscripts under review. She has an RO1 project entitled "*Enamel Without Enamelin*" and is co-investigator on two other NIDCR RO1 grants. Her total grant support, including only those projects for which she is listed as the principal investigator, exceeds 1.7 million dollars.

Recent and Significant Publications:

1. **Hu, J.C-C.,** Yamakoshi, Y. Enamelin and autosomal dominant amelogenesis imperfecta, *Critical Reviews in Oral Biology and Medicine* 14:387-398, 2003.
2. Yamakoshi, Y., **Hu, J.C-C.,** Fukae M., Iwata T., Kim J-W., Zhang, H., Simmer, J.P. Porcine dentin sialoprotein is a proteoglycan with glycosaminoglycan chains containing chondroitin 6-sulfate, *J Biol Chem* 14:280:1552-60, Epub 2004 Nov 10.
3. Kim, J-W., **Hu, J.C-C.,** Lee, J-I., Nam, S-H., Kim, C-C., Hahn, S-H., and Simmer, J.P. Mutational hot spot in the DSPP gene causing dentinogenesis imperfecta type II, *Human Genetics* 116:186-91, Epub 2004 Dec 08.
4. Kim, J-W, Simmer, J.P., Hart, T.C., Hart, P.S., Ramaswam, M.D., Bartlett, J.D., **Hu, J.C-C.** MMP-20 mutation in autosomal recessive pigmented hypomaturation Amelogenesis imperfecta, *J Med Genet* 42:271-5, 2005.
5. Yamakoshi, Y., **Hu, J.C-C.,** Fukae, M., Zhang, H., Simmer, J.P. Dentin Glycoprotein: the protein in the middle of the dentin sialophosphoprotein chimera, *J Biol Chem* 280:17472-79, 2005. [Feb 23, Epub ahead of print]

Service: As director of the Pediatric Dentistry Program, Dr. Hu is responsible for the oversight of the predoctoral and postdoctoral pediatric dentistry programs. Dr. Hu has undertaken her responsibilities as director with great enthusiasm and energy by expanding patient services and improving research activities and representation nationally.

At the national level, Dr. Hu has served as a member of several committees of the American Association for Dental Research. She is a member of the Council on Scientific Affairs of the American Academy of Pediatric Dentistry and editorial board of *Pediatric Dentistry* journal. In addition, Dr. Hu is an ad hoc reviewer for many scientific journals and recently completed a term as an editorial board member for the *Journal of Dental Research.*

External Reviewers:

Reviewer (A)

"Despite the inevitable hiatus that results from a move to a different institution, Dr. Hu's performance has hardly skipped a beat. She continues her funded research program; publishes her findings in a timely manner in prestigious journals; has won several national and international awards; has established vital research collaborations; mentors students, who themselves win national awards; serves on local and national committees and editorial boards."

Reviewer (B)

"Further markers of her appropriateness for the rank of professor are the fact that she received the "Research Award for Excellence" from the American Academy of Pediatric Dentistry Foundation, as well as the prestigious William J. Gies award from the American Academy for Dental Research (the Gies Award is given for the best paper published in the Journal of Dental Research during the preceding year)."

Reviewer (C)

"Both her national and international reputation is so evident that very few articles published on topics similar to her interest in research do not reference papers by Dr. Hu. I would say, without reservation, that Dr. Hu is one of very few international experts in the area of tooth development and genetic disorders involving the dentition."

Reviewer (D)

"I believe that Dr. Hu has been actively involved in the triad of dental education; teaching, research and service. She has an outstanding publication record, being formally recognized for her work published in the *Journal of Dental Research.*"

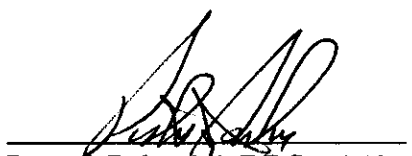
Reviewer (E)

"All in all, Dr. Hu has established herself as both an excellent dental clinician and an excellent basic researcher who also finds time to help her community and her University by contributing her talents for the benefit of all. I am aware of only a very few other scientists who have balanced both their clinic and basic research responsibilities as successfully as has Dr. Hu."

Reviewer (F)
"Dr. Hu's continuous NIH funding since receiving an R29 in 1996 speaks volumes to her credibility amongst her scientific peers and to her sustained and highly respected research. Dr. Hu is very energetic, multidimensional and her willingness to take on additional teaching administrative and teaching roles illustrate her tremendous commitment to your institution."

Reviewer (G)
"Dr. Hu's contributions compare extremely well with her contemporaries in this particular field and I would regard her as a leader in this area of research. It is also very clear from Dr. Hu's publications and track record in grants that she is a very successful "team organizer and player."

Summary of Recommendation: Given the outstanding quality of Dr. Hu's work and her exceptional abilities as a researcher, I have no doubt that she will continue to have a productive and well-funded research career. She is an excellent teacher and mentor of students, and she now has the responsibility of running predoctoral and graduate programs in pediatric dentistry. Dr. Hu is compassionate to her students and colleagues, and she epitomizes the clinician-researcher-scholar. It is with the full support of the Appointments, Promotion and Tenure Committee and the Executive Committees that I recommend her for promotion to professor of dentistry, with tenure.



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

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