

PROMOTION RECOMMENDATION  
The University of Michigan  
School of Dentistry

Yvonne Lorraine Kapila, DDS, PhD, associate professor of dentistry, with tenure, Department of Periodontics and Oral Medicine, School of Dentistry, is recommended for promotion to professor of dentistry, with tenure, Department of Periodontics and Oral Medicine, School of Dentistry.

Academic Degrees:

PhD	1997	University of California San Francisco San Francisco, California (Oral Biology)
DDS, BS	1990	University of California (Dentistry)
BA	1986	Stanford University Stanford University (Human Biology)

Professional Record:

2004-present	Associate Professor, Department of Periodontics and Oral Medicine, School of Dentistry, University of Michigan, Ann Arbor, Michigan
1999-2004	Assistant Professor, Department of Stomatology, University of California San Francisco, California
1997-1999	Assistant Adjunct Professor, Department of Stomatology, University of California San Francisco, California
1994-1997	Assistant Researcher, Department of Stomatology, University of California San Francisco, California
1991-1994	Postgraduate Researcher, Department of Stomatology, University of California San Francisco, California

Summary of Evaluation

Teaching: Professor Kapila has lectured regularly since 2004 in the areas of Periodontics, Research, and Oral Health Sciences and also teaching in the Vertically Integrated Clinics, Graduate General Dentistry and Periodontics clinics. Since 2005, she has been the director for the Oral Health Sciences PhD Program Journal Club. Beyond her teaching at the didactic and clinic levels, Professor Kapila is a superb mentor, role model and advisor for her students. Professor Kapila has been dissertation advisor to two PhD students and Master's thesis advisor to six MS students. She has been a thesis committee member for six MS students and two PhD students. In addition, she has been a mentor for six undergraduate students, three research assistants, ten dental students, one medical student, seven graduate/masters students, 11 PhD students, 12 Postdoctoral students, and one research investigator. She has also been academic advisor for five PhD students and is currently academic advisor for three of these PhD students.

Professor Kapila has also served as peer-mentor to four individuals by providing assistance in grant proposal writing and support for scholarly training and career development. Her accomplishments as a mentor and educator are evident by the success of her students. Her students have been honored by receiving five national awards and one fellowship award from the University of Michigan. Professor Kapila takes her teaching and mentoring commitments very seriously and demands quality performance from the students while making sure that students have a very positive experience. Professor Kapila is sincerely devoted to the School's educational programs and to her students.

Research: Professor Kapila has an internationally recognized research program dedicated to the study of matrix biology. Her main focus is on the role that fibronectin and its fragments play in oral cancer. Her research efforts have successfully identified important therapeutic targets for the treatment of oral diseases. She has developed new technologies designed to activate anoikis in oral cancer and in activating apoptosis using gold nanoparticles. Professor Kapila is well known for her work on matrix metalloproteases and their role in head and neck cancer. This area of research is critical for improving strategies for oral health therapies by focusing on the role that these proteins play in signaling and gene regulation of cancer cell proliferation. Professor Kapila's long-term research goal is to translate her research findings into therapeutic applications for the treatment of oral cancer. Professor Kapila has been successful in obtaining outside funding and has been awarded 22 grants from internal and external sources. She was principal investigator on 15 and co-investigator on three of these grants.

Currently, she is the principal investigator on two RO1 grants from the NIH/NIDCR, and co-investigator on two RO1 grants from NIH/NIDCR. Her ability to continually obtain funding from external sources is an excellent indication of the respect she has gained from the scientific and dental communities. Professor Kapila has 39 peer-reviewed publications either published or accepted for publication. She is first or senior author on the majority of these publications reflecting her direct contribution to the studies presented in these papers and her ability to be an effective collaborator on other projects. The quality of her research is reflected in the high impact of the journals in which she publishes. Professor Kapila has presented her research at numerous professional conferences and meetings. She is also regularly invited to speak at national and international meetings and universities. Her presentations are impressive and she has gained international recognition for her research. It is evident that Professor Kapila's research will continue to have a high impact on the field of oral health science.

Recent and Significant Publications:

- Bunek J., Kamarajan P., Kapila Y.L. 2010. Anoikis mediators in oral squamous cell carcinoma. *Oral Dis* Nov 29. doi: 10.1111/j.1601-0825.2010.01763.x. [Epub ahead of print]
- Pirih F., Michalski M., Koh A., Berry J., Ghaname E., Kamarajan P., Bonnelye E., Ross C.W., Kapila Y.L., Jurdic P., McCauley L. Parathyroid hormone mediates hematopoietic cell expansion through interleukin-6. *PLoS One* 5(10):e13657, 2010
- Miao D., Fenno J.C., Timm J.C., Joo N.E., Kapila Y.L. The treponema denticola chymotrypsin-like protease dentilisin induces MMP-2-dependent fibronectin fragmentation in periodontal ligament cells. *Infection and Immunity* 79:806-811, 2011
- Alhazzazi T.Y., Kamarajan P., Joo N., Huang J.Y., Verdin E., D'Silva N.J., Kapila Y.L. Sirtuin-3 (SIRT3), a novel potential therapeutic target for oral cancer. *Cancer* Nov 29, 2010 [Epub ahead of print]
- Springstead S.C., Marchesan J.T., Soehren S., Matsuo M., Kapila Y.L. Capturing the Regenerative Potential of Periodontal Ligament Fibroblasts. *Journal of Stem Cells and Regenerative Medicine* (In Press) 2011
- Marchesan J.T., Springstead S.C., Soehren S., Matsuo M., Kapila Y.L. Implications of cultured periodontal ligament cells for the clinical and experimental setting: a review. *Arch Oral Bio* (Accepted pending minor revisions) 2011

Service: Since joining the faculty at the University of Michigan, Professor Kapila has provided valuable service. She continues to put a major effort into service for the school, the university, at the national level and within her community. Professor Kapila is currently an active member on several School committees including the Executive Committee. Professor Kapila's efforts on University committees include her membership in the Cell and Molecular Biology Graduate Group (2006-present). Professor Kapila has served as an ad hoc reviewer for nine different scientific journals. Currently she is ad hoc reviewer for four high impact journals including: *Journal of Dental Research* (2001-present), *Experimental Cell Research* (2005-present), *Oncogene* (2005-present), and *Cancer Research* (2009-present).

External Reviewers:

Reviewer (A): "Over the past 10 years, Yvonne has published extensively and continuously in high impact journals in these areas and has received several key NIH RO1 program project grants in recognition of this important work."

Reviewer (B): "She is unique in that she clearly demonstrates a high level of molecular and cellular understanding which combined with her hands on experience and knowledge of periodontitis is providing the field with a mechanism of altered host homeostasis that no one else is describing."

Reviewer (C): "Dr. Kapila has been able to extend the influence of her scholarship through the mentoring of postdoctoral fellows, residents, undergraduate and graduate students. This is a critically important teaching activity that is necessary to develop the biomedical and clinical researchers necessary to maintain prominence at U.S. universities."

Reviewer (D): "She is extremely bright, well read, and focused. She has made significant contributions at the national and international level and I have no doubt that she will continue to make important discoveries relevant to the areas of oral cancer progression and periodontal ligament stem cells."

Reviewer (E): "In addition to her superb scientific career, Dr. Kapila has been a remarkable teacher and mentor. I have been fortunate to interact directly with some of her former postdoctoral and graduate students, many of whom now occupy important positions in highly ranked research and teaching institutions."

Reviewer (F): "I consider those manuscripts that have investigated the mechanism by which fibronectin fragments modify cellular apoptosis and behavior to be those which best characterize Dr. Kapila's contributions to science. The results from this line of research have appeared in the literature from her early days as a PhD student at the University of San Francisco and extend into her current tenure at the University of Michigan."

Reviewer (G): "She serves on numerous committees and accepts important ad hoc positions in many organizations, most notable the American Academy of Periodontology and the International Association of Dental Research. Her service to the community is extensive with numerous continuing education commitments and community service."

Reviewer (H): "The number of publications produced by her lab appears to be increasing rapidly. In 2010, she has already published six papers, many of her published reports were published in high impact journals. In particular, her laboratory has made specific contributions to our understanding of


the process of anoikis, or detachment-induced cell death. This work is very relevant to our understanding of the process by which malignancies develop and escape the need for cellular attachment.”

Reviewer (I): “Of particular note are her students’ successes in the highly competitive and prestigious Hatton Award program. Dr. Kapila’s students have had a quite remarkable track record of success in selection for the competition, including receipt of the top international award by her student Turki Alhzzizi in 2009.”

Reviewer (J): “In a completely original way, Dr. Kapila’s research program brings many different disparate elements together of regulatory systems in control of apoptosis and through her research she has advanced our understanding of fundamental processes in many important ways.”

Reviewer (K): “Dr. Kapila is well funded. She has been able to secure major funding from the NIH as a principal investigator. Dr. Kapila currently holds two RO1 grants as a principal investigator and she serves as a co-investigator for another RO1 grant. I consider her grant funding outstanding.”

Summary of Recommendation: Professor Kapila has made impressive contributions in all areas expected for someone in an academic appointment with tenure related to teaching, service, and research. Her research is vital to current health care priorities and we anticipate that she will continue to be successful in this regard. Therefore, I recommend Yvonne L. Kapila for promotion to professor of dentistry, with tenure, Department of Periodontics and Oral Medicine, School of Dentistry.



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

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