

PROMOTION RECOMMENDATION
The University of Michigan
School of Dentistry

J. Christopher Fenno, associate professor of dentistry, with tenure, School of Dentistry, is recommended for promotion to professor of dentistry, with tenure, School of Dentistry.

Academic Degrees:

Post-doctoral	1996	Microbiology and Immunology, University of British Columbia
PhD	1993	Microbiology and Molecular Genetics, University of Vermont
AB	1972	Anthropology, Dartmouth College

Professional Record:

2004-Present	Associate Professor, Department of Biologic and Materials Sciences, School of Dentistry, University of Michigan
1998-2004	Assistant Professor, Department of Biologic and Materials Sciences, School of Dentistry, University of Michigan
1996-1998	Research Associate, Department of Microbiology and Immunology, University of British Columbia

Summary of Evaluation:

Teaching: Professor Fenno is a talented faculty member with meritorious dedication for teaching microbiology. He has an outstanding record of both classroom and laboratory effort at all levels of education. He has contributed to more than fifteen courses during his time in rank, being course director for two courses. Over his career, he has been the mentor, co-mentor or thesis committee member for over 70 students. While in rank, he has been the advisor, mentor, research committee member for eleven PhD students, 23 undergraduate students, four dental students and seven post-doctoral fellows. His commitment to mentoring these students shows his dedication to promoting the educational and training mission of the school. His teaching is supported by numerous positive comments by students and peers.

Research: Professor Fenno is an enthusiastic scientist with a total of 47 peer-reviewed publications including 27 while in rank and four book chapters. His research focuses on the molecular genetic analysis of *Treponema denticola* (*T. denticola*) and oral spirochete bacterium. His laboratory has made major contributions to understanding the nature and functions of *T. denticola* cellular components. He has pioneered the study of the genetics of *T. denticola* using genetic mutants which he developed. More recently, he has pioneered the study of protease formation and its consequence in periodontal pathogenesis. He is a leader in the analysis of the surface proteins of *T. denticola*. Investigation of this organism is critical because its active proteases are known to contribute to periodontal disease. Additionally, he generously supplies about one half of the genetic mutants ever created for this species, distributing them to other scientists. Professor Fenno shares his research expertise at scientific conferences and meetings nationally and has been an invited speaker at six of the nine biennial Gordon Research Conferences on the biology of spirochetes, the primary international conference in his field. He has been the keynote speaker at the American Association for Dental Research, Microbiology and Immunology Group, and he has been an invited speaker at several universities.

Professor Fenno has received numerous NIH awards during his time in rank to support his research program. Currently, he is the principal investigator on an R21 and R01 grant and a co-investigator on a foundation grant. He has established himself as a leader in his field developing collaborations that complement his expertise.

Recent and Significant Publications:

- Miao D, Fenno JC, Timm JC, Joo NE, Kapila YL. *Treponema denticola* chymotrypsin-like protease (dentilisin) induces MMP-2-dependent fibronectin fragmentation in periodontal ligament cells. *Infect Immun* 2011;79:806-811.
- Godovikova V, Goetting-Minesky MP, Fenno JC. Composition and localization of *Treponema denticola* outer membrane complexes. *Infect Immun* 2011;79:4868-4875.
- Goetting-Minesky MP, Godovikova V, Li JJ, Seshadrianatha S, Timm JC, Kamodia SS, Fenno JC. Conservation and revised annotation of the *Treponema denticola* *prcB-prcA-prtP* locus encoding the dentilisin (CTLP) protease complex. *Mol Oral Microbiol* 2013;28:181-191.
- Miao, D., V. Godovikova, X. Qian, S. Seshadrianathan, Y.L. Kapila and J.C. Fenno. *Treponema denticola* upregulates MMP-2 in periodontal ligament cells: interplay between epigenetics and periodontal infection. *Arch Oral Biol* 2014;59:1056-1064.
- Godovikova V, Goetting-Minesky MP, Shin JM, Kapila YL, Rickard AH, Fenno JC. A modified shuttle plasmid facilitates expression of a flavin mononucleotide-based fluorescent protein in *Treponema denticola* ATCC 35405. *Appl Environ Microbiol* 2015;81: 6496-6504. Selected for Cover Photo and “Article of significant interest”.
- Vences-Guzmán MA, Goetting-Minesky MP, Guan Z., Córdoba-Castro LA, López-Lara IM, Geiger O, Sohlenkamp C*, and Fenno JC*. 1,2-diacylglycerol choline phosphotransferase catalyzes the final step in the unique *Treponema denticola* phosphatidylcholine biosynthesis pathway. *Mol Microbiol*. [Epub ahead of print Dec 23, 2016]. doi: 2017;10.1111/mmi.13596. PMID: 28009086 [PubMed-in process]

Service: Professor Fenno displays an active role in service. He has been a member of numerous critically important committees at the School of Dentistry and University of Michigan while in rank. At the university level, he has served on the Rackham School of Graduate Education, Faculty Senate Assembly, Resolution Officer since 2009 to present, and served on the Institutional Biosafety Committee. At the school level, he has served on the Executive Committee, the Appointment, Promotion and Tenure Committee, the Honor System Review Committee, Research Committee and several ad hoc working groups and committees of the Oral Health Sciences Program. Additionally, Professor Fenno has served on six editorial boards and as an ad hoc reviewer for numerous scientific journals, e.g. *Journal of Dental Research*, *Infection and Immunity*, *PLOS One*, and as reviewer for grants for the American Heart Association. He currently serves as an associate editor of *Odontology*, and is an editorial board member for five journals.

Professor Fenno has served on important committees, engaging major roles at the School of Dentistry and the University of Michigan. He is viewed as a good citizen in the university community. His service commitment is broad and his contributions are notable.

External Reviewers:

Reviewer A: “All in all, Dr. Fenno is evidently an excellent teacher and research mentor. I also note that with respect to service, Dr. Fenno is quite active in participation in furthering the University.”

Reviewer B: “Chris has a consistent publication record in quality journals, he has effectively competed for extramural funding for the past 15 years, and he has a national and international

reputation as a productive and professional academic researcher. Chris is continuing to make tangible scientific contributions to the areas of oral microbiology and microbial pathogenesis.”

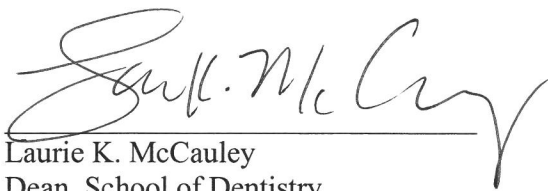
Reviewer C: “He has continued to develop his research in the period since his last promotion, specifically moving into important and interesting questions around host targets and mechanisms of disease caused by treponemes; and he has generated peer-reviewed research support in the process.”

Reviewer D: “Dr. Fenno is an inspirational educator and has trained numerous students at all levels. I see from his CV that Dr. Fenno also has a substantial teaching commitment and has made significant contributions to the service mission of the school.”

Reviewer E: “I can say without question that he has had a powerful impact on the field’s understanding of treponemal membrane biology, genetics, and disease pathogenesis and, in so doing, has greatly influenced the directions of work in my own laboratory.”

Summary of Recommendation:

Professor Fenno has made significant contributions in his academic and professional career since being appointed as an associate professor. His research is making timely and tangible scientific contributions to the areas of microbiology and microbial pathogenesis. He publishes in high-tiered journals and has been consistently funded throughout his time in rank. He has established himself as an expert in the field, demonstrating his expertise in the national and international realms. His teaching commitment to students is exemplary in all areas including his ability to productively mentor multiple students at different levels in his research lab. We are fortunate to have a dedicated faculty member who is not only a leader in his own research area but who is also devoted to advancing the career of his mentees. Additionally, Professor Fenno is a thoughtful faculty member providing great consideration and leadership to the committees and boards on which he serves. It is with the support of the School of Dentistry’s Executive Committee that I recommend J. Christopher Fenno for promotion to professor of dentistry, with tenure, School of Dentistry.



Laurie K. McCauley
Dean, School of Dentistry

May 2017