

PROMOTION RECOMMENDATION
The University of Michigan
School of Dentistry

Alexandre F. DaSilva, assistant professor of dentistry, School of Dentistry, is recommended for promotion to associate professor of dentistry, with tenure, School of Dentistry [also being promoted to research associate professor, Center for Human Growth and Development].

Academic Degrees:

DMSc	2002	Oral Biology, Harvard University
Certificate	2002	Advanced Education Program, Oralfacial Pain, Harvard University
DDS	1991	Universidade Grande Rio School of Dental Medicine, Brazil

Professional Record:

2014-Present	Research Assistant Professor, Center for Human Growth and Development, University of Michigan
2008-Present	Assistant Professor, University of Michigan School of Dentistry, Department of Biologic and Materials Sciences/Prosthodontics, University of Michigan
2006-2008	Assistant Clinical Investigator, Clinical Research Collaborative, Forsyth Institute
2006-2007	Instructor, Psychiatry Department, Pain and Analgesia Imaging and Neuroscience Group (P.A.I.N.), Harvard University, McLean Hospital
2003	Clinical Research Fellow, Headache Clinic, Department of Internal Medicine, Harvard University, Spaulding Rehabilitation Hospital
2002-2006	Research Fellow, Martinos Center for Biomedical Imaging, Radiology Department, Harvard University, Massachusetts General Hospital
1999-2002	Research Fellow, Center for Functional Pain Neuroimaging and Therapy Research, Nuclear Magnetic Resonance (NMR) Center, Radiology Department, Harvard University, Massachusetts General Hospital
1996-1997	Faculty, Occlusion Unit, School of Dentistry, Universidade Estacio de Sá Brazil

Summary of Evaluation:

Teaching: Professor DaSilva has engaged in a wide variety of teaching activities after being appointed as an assistant professor. He has directed a graduate course starting at the beginning of his appointment in 2008, and a pre-doctoral course since 2013. He lectures in three other graduate courses and four other pre-doctoral courses. He participated in the Grand Rounds both at the School of Dentistry and the Medical School. Professor DaSilva demonstrates creativity and ingenuity in his teaching approach, developing several innovative instructional materials including an iPhone and iPad based application for which he has applied for a patent. Professor DaSilva's student reviews frequently comment on the clarity of his presentations and how they enjoy his innovative use of videos and other engaging media to support his teaching. His peer reviews uniformly compliment Professor DaSilva for his unique application of media resources and strong desire to engage the student. In 2015, Professor DaSilva was the recipient of the

Transforming Learning for Third Century Grant Program Award from the University of Michigan.

Professor DaSilva maintains a steady and productive mentoring program for pre-doctoral, graduate and post graduate students. Since being at Michigan, he has mentored nine graduate students, three pre-doctoral students, four post-doctoral trainees and numerous other research assistants and pre-dental students.

Professor DaSilva consistently presents quality, well received presentations in areas related to pain neuroscience. His teaching significantly contributes both basic science and clinical science components. He is a committed mentor and role model for students at all stages of their careers and has demonstrated a consistent track record of excellence and innovation in dental and graduate student education.

Research: Professor DaSilva has established a dynamic, productive and well-funded research program focusing on chronic trigeminal pain disorders. This research area developed from his post-doctoral studies that used fMRI mapping to follow pain stimuli in normal subjects. As an independent investigator, he expanded this work into the study and treatment of chronic migraine headaches, fibromyalgia and temporomandibular pain. His laboratory has published the only literature currently on human migraine mu-opioid mechanisms “in vivo.” Additionally, it is the leading laboratory in publications on immediate and long-term effects of neurostimulation for pain on the human brain “in vivo.” His migraine/pain neuroscience studies have resulted in 25 peer-reviewed papers while in rank and seven book chapters. He is first or senior author on 23 papers in top tier journals of pain research, dentistry and biomedicine such as *PLoS One*, *Journal of Dental Research*, *Molecular Pain*, *Brain Stimulation*, *Arthritis & Rheumatology* and *Frontiers of Neuroscience*. His publications have generated more than 900 scientific citations since being in rank which have led to multiple professional research interviews, including LA Times, San Francisco Chronicle, Scientific Daily, and other national and international media. Professor DaSilva currently is the principal investigator on two major NIH awards. His curriculum vita shows an impressive history of obtaining additional funding through university and foundation sources to support his research.

Professor DaSilva’s work is highly translational and includes the development of a mobile application for patients to monitor pain leading to the development of a start-up company, HealthTrek Solutions LLC. His research is clearly on an upward trajectory as he becomes a leader in the study of oral and craniofacial pain. Professor DaSilva’s research is highly collaborative, requiring the assembly of clinical teams to recruit patients, develop technologies and software, conduct clinical experiments and interpret complex imaging and pain related data. He is recognized nationally and internationally for his work and presents globally at research meetings and symposiums.

Recent and Significant Publications:

Racek A, Hu X, Nascimento T, Bender M, Khatib L, Chiego D Jr, Holland G, Bauer P, McDonald N, Ellwood R, DaSilva A. Different Brain Responses to Pain and Its Expectation in the Dental Chair. *J Dent Res*. 2015 Jul; 94(7): 998-1003.
DaSilva A, Mendonca M, Zaghi S, Lopes M, Dos Santos M, Egilius E, Badjwa Z, Datta A,

Bikson M, Fregni F. tDCS-induced analgesia and electrical fields in pain-related neural networks in chronic migraine. *Headache*. 2012 Sept; 52(8):1283-95.

Donnell A, Nascimento T, Lawrence M, Gupta V, Zieba T, Truong D, Bikson M, Datta A, Bellile E, DaSilva A. High-Definition and Non-invasive Brain Modulation of Pain and Motor Dysfunction in Chronic TMD. *Brain Stimul*. 2015 June 23; 8(6):1085-92.

DaSilva A, Nascimento T, DosSantos M, Lucas S, Van Holsbeeck H, DeBoer M, Maslowski E, Love T, Martikainen I, Koeppel R, Smith Y, Zubieta J. μ -Opioid activation in the prefrontal cortex in migraine attacks – brief report I. *Ann Clin Transl Neurol*. 2014; 1(6): 439-444.

Foerster B, Nascimento T, DeBoer M, Bender M, Rice I, Truong D, Bikson M, Clauw D, Zubieta J, Harris R, DaSilva A. Excitatory and Inhibitory Brain Metabolites as Targets and Predictors of Effective Motor Cortex-tDCS Therapy in Fibromyalgia. *Arthritis Rheumatol*. 2015 Feb; 67(2): 576-81.

Service: Professor DaSilva has served on numerous committees at the School of Dentistry and at the university level. At the school level, he has served on several faculty search committees and the Admissions Committee. Additionally, he has been involved in developing the new DDS curriculum on pain. At the university level, he is a member of the Future of Visualization Committee which seeks to advance the development of new imaging modalities for teaching and research. He served on a search committee for a new director of digital media commons, was a member of the steering committee for the Center for Human Growth and Development and he was on the planning committee for a new fMRI center. Nationally, Professor DaSilva regularly serves as an ad-hoc reviewer for NIH study sections and reviews manuscripts for scientific journals. He has been an ad-hoc grant reviewer for NIH, Department of Defense, Department of Veterans Affairs and more. Professor DaSilva's level of service strongly supports the school's service mission at all levels.

External Reviewers:

Reviewer A: "Dr. DaSilva has trained and collaborated with outstanding pain scientists/imagers and so he has been exposed to an excellent environment of learning that has served him well in setting up his own research program."

Reviewer B: "Dr. DaSilva has clearly emerged as a leader in his own right in the fields of pain and brain imaging, as well as in the application of the transcranial direct current stimulation of the brain for the treatment of pain."

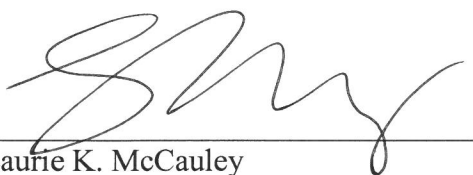
Reviewer C: "Firstly, he reviews for several federal organizations including the Department of Veterans Affairs, the Department of Defense, and the NIH. Secondly, and most noteworthy is his participation in a number of NIH study sections. It is rare for scientists at the rank of Assistant Professor to serve on NIH study sections. Of major significance, is his appointment on a highly significant review panel associated with NIH efforts in the President's BRAIN Initiative. These appointments attest to the high regard that peers have of his standing in the field and his stature as a recognized expert in neuroscience research."

Reviewer D: "He has been extremely productive publishing, as a lead author, original articles on migraine and orofacial pain in renowned scientific journals in the field of neuroscience and neurology."

Reviewer E: “Alex’s career-long commitment, creativity, and passion for improving the lives of patients, and for research in the field of chronic pain, amply demonstrate his abilities as a leader in clinical/translational research and education.”

Summary of Recommendation:

Professor DaSilva consistently demonstrates excellence in teaching, scholarship, and service. He is a model example to the school’s teaching mission bringing creativity, innovation, and excellence to the classroom. His leadership as a teacher and mentor is a clear indication of his commitment to academic excellence. Professor DaSilva’s research is relevant to the scientific progression in neuroimaging and neuromodulation of migraine and neuropathic pain disorders reflecting his national and international reputation. He has successfully obtained funding from a variety of sources and published in high quality journals. Professor DaSilva demonstrates a strong commitment to service at all levels. It is with the support of the School of Dentistry’s Executive Committee that I recommend Alexandre F. DaSilva for promotion to associate professor of dentistry, with tenure, School of Dentistry.



Laurie K. McCauley
Dean, School of Dentistry

May 2017