

PROMOTION RECOMMENDATION
The University of Michigan
School of Dentistry

Rogério Castilho, associate professor of dentistry, with tenure, School of Dentistry, is recommended for promotion to professor of dentistry, with tenure, School of Dentistry.

Academic Degrees:

Ph.D.	2003	University of São Paulo, São Paulo, Brazil
M.S.	2000	University of São Paulo, São Paulo, Brazil
D.D.S.	1995	Pontific Catholic University of Campinas, Campinas, Brazil

Professional Record:

2023-present	Visiting Professor, Department of Diagnosis and Surgery, Periodontics, School of Dentistry, State University of São Paulo
2020-present	Adjunct Associate Professor, Department of Oral Pathology, University of Campinas
2018-present	Associate Professor, with tenure, Periodontics and Oral Medicine, School of Dentistry, University of Michigan
2014-2014	Adjunct Assistant Professor, College of Literature, Science, and the Arts
2010-2018	Assistant Professor, Department of Periodontics and Oral Medicine, School of Dentistry, University of Michigan
1999-2003	Instructor, Surgical and Experimental Pathology, Department of Oral Pathology, University of São Paulo

Summary of Evaluation:

Teaching: Professor Castilho is an excellent educator. His teaching philosophy reflects awareness of the importance of incorporating research into the curriculum to provide students with up-to-date knowledge of the biology of diseases, corresponding treatment options, and to disseminate the concept of continuous learning throughout their professional careers. He emphasizes to his students to provide the most comprehensive patient care by teaching them to understand and apply the principles of oral pathology as the basis for identifying and diagnosing diseases, promoting overall quality of health to patients.

Professor Castilho maintains an extensive teaching portfolio. He is the course director in one graduate didactic course, Clinical Oral and Maxillofacial Pathology (2014-present), and is the course director in one undergraduate course, Dentistry 101 (2019-present). He was the co-course director in the dental hygiene curriculum, General and Oral Pathology from 2012-2022. He is an instructor in two additional pre-doctoral didactic courses, and one graduate course. In rank, he has taught in eight additional courses at the School of Dentistry, and at the College of Literature, Science, and the Arts. He is a course director in the University of Michigan Massive Open Online Course (MOOC), “Dentistry 101,” a course designed to provide undergraduate students with an introduction of the field of dentistry as a career path. This course is in partnership between the University of Michigan School of Dentistry and the Digital Education and Innovation program. In 2020, Professor Castilho lectured in a graduate course at the University of Campinas in Campinas, Brazil. Professor Castilho’s student and peer evaluations are positive, with inspiring comments regarding his kindness and patience with students, his knowledge and clarity of the subject, and his thoughtful ability to explain difficult concepts in a manner that can be understood. In rank, Professor Castilho has

mentored three Ph.D. students, two graduate students, eleven pre-doctoral students, four post-doctoral students and 15 visiting scholars.

In recognition of Professor Castilho's teaching and mentorship, he was awarded the "Director's Choice Award" as a research mentor in the University of Michigan pre-doctoral pathways program in 2018. He was induction by student election, into the Omicron Kappa Upsilon, National Dental Honor Society in 2021. Notably, he received "Outstanding Faculty Award" from the Pierre Fauchard Academy in 2023.

Research: Professor Castilho's research studies the molecular mechanisms and epigenetic modifications responsible for the maintenance of stem cells and the regulatory signaling pathways during wound healing and chronic inflammatory diseases of the oral cavity. He has additional interest in the role of cancer stem cells in cancer development and the acquisition of resistance to therapy. In recent findings in epithelial biology, his laboratory designed novel therapeutic strategies for patients presenting loss of skin coverage that would improve epithelial healing and final functional and aesthetical outcomes in oral wounds. His team has also identified new therapeutic approaches to mitigating tumor resistance. He is a co-principal investigator on one large grant from the National Institute of General Medical Sciences "Combined bio printing with stem cell technology to manage burn wounds," and is a co-investigator on another grant from the National Institute of Dental and Craniofacial Research, titled "Personalized Strategies for Periodontal Tissue Regeneration – A Converged Bio fabrication Approach." In rank, he has been the principal investigator on two national level grants, one foundation grant and one school-level grant, and he has attracted \$4,410,000 in national funding to support novel investigations. He has over 60 publications in top-tier journals such as *Science*, *PNAS*, *Cancer Research*, *Oncogene*, *Cancer Research*, *Immunology*, and *Cell Stem Cell*. Of these, he is first or last author on 16 publications. Professor Castilho has one book chapter, one patent, one peer-reviewed electronic scholarship and 21 published abstracts in rank. He is a highly sought-out speaker, which is a testament to his national and international reputation as a leading scientist in his field. He has given multiple clinical focused, and basic research oriented conference seminars and workshops, both in the United States and abroad. His research is interdisciplinary at the university, national and international levels. He holds an adjunct faculty appointment at the in the Department of Oral Pathology, University of Campinas, and was a visiting professor in the Department of Diagnosis and Surgery, Periodontics, at State University of São Paulo, School of Dentistry, Aracatuba, Brazil.

Professor Castilho has established a well-funded, nationally and internationally recognized research program. He has demonstrated all qualities needed to continue to expand interdisciplinary collaborations, publications in high-impact journals, and secure future national-level funding to support and expand his investigations.

Recent and Significant Publications:

- Wagner VP, Martins MD, Martins MAT, Olmeida LO, Warner KA, Nör JE, Squarize CH, Castilho RM. Targeting histone deacetylase and NFκB signaling as a novel therapy for Mucoepidermoid Carcinomas. *Scientific Reports* 2018;2(1):2065.
- Garaicoa-Pazmino C, Fretwurst T, Squarize CH, Berglundh T, Giannobile WV, Larsson L, Castilho, RM. Characterization of macrophage polarization in periodontal disease, *J. Clin Periodontol.* 2019;46(8):830-839.
- Nascimento-Filho CHV, Silveira EJD, Goloni-Bertollo EM, de Souza LB, Squarize CH, Castilho RM. Skin wound healing triggers epigenetic modifications of histone H4. *J Transl Med.* 2020 26;18(1):138.

Guimarães LD, Webber LP, Gaio EJ, Junior DS, Goncalves P, Wick MJ, Burr NS, Squarize CH, Castilho RM. Using PDX animal models to identify and stratify adenoid cystic carcinoma patients presenting an enhanced response to HDAC inhibitors. *AJ Cancer Res.* 2023 15;13(1):143-160.

Silva LC, Borgato GB, Wagner VP, Martins MD, Lopes MA, Santos-Silva AR, De Castro g, Kowalski LP, Squarize CH, Vargas PA, Castilho RM. Repurposing NFkB and HDAC inhibitors to individually target cancer stem cells and non-cancer stem cells from mucoepidermoid carcinomas. *Am J Cancer Res.* 2023 15;13(4):1547-1559.

Service: Professor Castilho service in the Department of Periodontics and Oral Medicine and at the school level have been important and impactful. From 2019-2022, he served as the associate chair for the Division of Oral Medicine, Oral Pathology and Radiology in the Department of Periodontics and Oral Medicine at the University of Michigan School of Dentistry. Notably, he served as the interim chair of the Department of Periodontics and Oral Medicine, University of Michigan School of Dentistry from 2020 – 2022. As the interim chair, he was essential in leading various unexpected charges in the department through the Covid-19 pandemic. Currently, Professor Castilho is a member of the school’s Executive Committee. He was the committee chair for the 2018-2019 Donald Kerr Symposium. He was a committee member of the Secretary of the University Advisory Committee (2018-2019), and was a two-time member of the university Faculty Senate Assembly. He has served on many Ph.D. thesis committees at the University of Michigan and also internationally at the University of São Paulo, and University of Campinas. He is a manuscript reviewer for numerous journals, has been a grant reviewer four times and has served on three editorial boards while in rank.

Professor Castilho is passionate about serving local high schools to support their Community Resource Program. A student led program to support and empower students to reach out to local academic institutions to engage and develop their classes, including wet lab experiences. This work has allowed Professor Castilho to teach high-school students about cancer biology, as well as exposing them to bioengineering and drug development aimed at rare cancers. These efforts are exposing high school aged students into cutting-edge topics in research, and sparking their interest to inspire their career goals.

External Reviewers:

Reviewer A: “His area of research, epigenetics, is state-of-the-art and holds much future potential. His ‘Scientific Reports’ publication related to Targeting histone deacetylase and NFkB signaling is a novel therapy for Mucoepidermoid Carcinomas represents a milestone in the area of epigenetic therapies. Thus, the overall quality of his research is excellent.”

Reviewer B: “Dr. Castilho has a gift for mentoring trainees. From glancing at his CV, he is playing multiple institutional leadership roles, and engaged in many teaching and training and mentoring programs at his current institution. Dr. Castilho is a natural born leader and quite effective in organizing team efforts and accomplishing his projects. I personally believe that he will continue making a remarkable impact as a scientific and academic leader at the University of Michigan.

Reviewer C: “...since his promotion to associate professor, Dr. Castilho has clearly become a leader both within and outside his institution. I would anticipate that his academic career will continue to head in a positive trajectory and that he will continue to make important and transformative scientific discoveries in the years to come.”

Reviewer D: “It is my professional opinion that Dr. Castilho meets all the requirements to the rank of Professor. He has established and sustained a rigorous research program with the highest quality and significance that is nationally and internationally recognized. Multiple honors and awards further highlight that he is a highly valued member of the research and dental communities at large.”

Reviewer E: “Based on quality of research, productivity, innovation, and translational impact, I judge Dr. Castilho to be in the top 2-3% in the country in dental schools, and at least in the top 5-10% overall, worldwide.”

Summary of Recommendation:

Professor Castilho is a valuable asset to the School of Dentistry. His service to the school and Department of Periodontics and Oral Medicine have been remarkable, and his collaborations and scholarly output have soared in the past six years. He is a gifted and prolific researcher who has made fundamental contributions to the field of epithelial biology and the molecular mechanisms that control homeostasis and cancer behavior. He shares his knowledge broadly, beyond the School of Dentistry, but in other colleges including at the international realm. He is a generous, kind and thoughtful collaborator, scholar and teacher. It is with the support of the Executive Committee, that I recommend Rogerio Castilho for promotion to professor of dentistry, with tenure, School of Dentistry.

A handwritten signature in black ink that reads "Mark Fitzgerald". The signature is written in a cursive, flowing style.

Mark Fitzgerald,
Professor and Senior Associate Dean
School of Dentistry

May 2024