

## Orthodontic Faculty Development Fellowship Award

Dr. Marilia Yatabe, *University of Michigan*

### Biography

I am originally from Brazil, where I graduated from my DDS program in 2007 at The São Paulo State University. In 2010, I received my Orthodontic certificate from The Hospital for Rehabilitation of Craniofacial Anomalies – University of São Paulo. In the following years, 2011 and 2016 respectively, I completed my Master and PhD's programs in Orthodontics, both at Bauru Dental School, University of São Paulo. In 2017, I completed a Post-doctoral fellowship at The Hospital for Rehabilitation of Craniofacial Anomalies – University of São Paulo, and in 2018 an Orthodontic Craniofacial Fellowship at the School of Dentistry – University of Michigan. Currently I'm a Clinical Assistant Professor at the Orthodontic and Pediatric Dentistry Department of the University of Michigan. My research interests are multidisciplinary treatment of craniofacial patients and 3D imaging analysis.



### Project Description

My current research is entitled *Biomaterials for Regeneration of Palatal Defects*. Currently, standard primary surgical protocol is: lip surgery performed at 3 months of age, soft tissue palatal repair at 12 months of age. However, these surgeries may create fibrous scars that can negatively influence the maxillary growth and development, resulting in hypoplastic maxilla and Class III malocclusion. Therefore, improving the surgical options/techniques to avoid negative impact on maxillary growth is important. Surgical cleft models were considered more suitable for efficacy testing of new biomaterials for bone grafting as long as the created surgical defects are critically sized, preventing spontaneous healing without intervention. Our aims are to determine: (1) if PGD will be biocompatible in the critical size defect (CSD) in the middle of the secondary hard palate; (2) if the PGD scaffold induces cellular responses that are consistent with improved healing and reduced scarring. The proposed experiments will serve as an important step in evaluating the suitability of PGD as a potential therapeutic biomaterial to induce tissue regeneration in cleft palate repair, while reducing scarring.

### Benefit to Orthodontic Education

The outcomes of this study may change the course of what's known and consolidated in the literature regarding palatal repair in patients with cleft lip and palate. As residents work along in the project, they will learn the biology behind the palatal development in 3D printed biomaterials and 3D imaging analysis. In the long-term, it will benefit not only the orthodontic community, but also OMFS, Plastic Surgery, Craniofacial teams and mainly, patients.

### **Importance of AAOF Funding**

The AAOF Funding is important to support me as a Junior Faculty during the initial steps of my research path, but mainly, being a recipient of the **2020 James A. McNamara Orthodontic Faculty Fellowship Award** makes me feel honored and encouraged to develop my academic and scientific career at The University of Michigan.