Division of Orthodontics and Dentofacial Orthopedics  
Department of Oral Growth and Development

**Outline**

The specialty of orthodontics is concerned with the study and treatment of malocclusions, which may be a result of tooth irregularity, disproportionate jaw relationships and orofacial malfunctions. Orthodontic treatment focuses not only on dental and occlusal problems, but also deals with the control and modification of maxillofacial growth and morphology. High-quality outcomes of orthodontic treatment can only be accomplished with comprehensive knowledge about growth and development of maxillofacial region, occlusion, materials sciences, and diagnostics and therapeutics of malocclusion. Our research interests were shown below.

**Faculty members**

Professor: Itaru MIZOGUCHI, D.D.S., Ph.D.  
Associate professor: Masahiro IIJIMA, D.D.S., Ph.D.  
Assistant professor/full-time lecturer: Takeshi MUGURUMA, D.D.S., Ph.D.  
Assistant professor/research associate:  
Clinical instructor:  

![Itaru MIZOGUCHI](image1.jpg)  
![Masahiro IIJIMA](image2.jpg)  
![Takeshi MUGURUMA](image3.jpg)  
![Atsue YAMAZAKI](image4.jpg)  
![Miki OKAYAMA](image5.jpg)  
![Naoko TORIYA](image6.jpg)  
![Yuya NAKAO](image7.jpg)  
![Kyotaro KAWAGUCHI](image8.jpg)  
![Haruna KASHIO](image9.jpg)  
![Saera SASAMOTO-MIYATA](image10.jpg)
Postgraduate students
Yuki TOMITA, D.D.S.
Masaru YAMAGUCHI, D.D.S.
Takuya ODACHI, D.D.S.
Naohiko KAWAMURA, D.D.S.
Rina ISHIKAWA, D.D.S.
Ryusuke YAMADA, D.D.S.
Yumiko TANAKA, D.D.S.
Ryouta NAGASAKI, D.D.S.

Main research in progress
1) Extracellular matrix in the temporomandibular joint (TMJ)
2) Orthodontic materials research
3) Three dimensional (3D) analysis of orthodontic tooth movement
4) Development of a new diagnostic system for orthodontic treatment based on spatial arrangement features of dentitions and elements of the cranio-maxillofacial skeleton
5) Signaling by mechanical strain in human periodontal ligament cells in vitro

Current publications