

# Division of Anatomy

## Department of Oral Growth and Development

### Outline

For the appropriate mastication and intake of food, not only the tooth itself, periodontal tissue, such as cementum, periodontal ligament, alveolar bone and gum, should be healthy. In the Division of Anatomy, we are concerned to elucidate the process of development and regeneration of periodontal tissue, using the morphological approach such as fine structural examination and immunohistochemistry with a light and an electron microscope. Our ongoing research is shown below.

### Faculty members

Professor; Kazuharu IRIE, D.D.S., Ph.D.

Assistant professor; Toru SHIBUI D.D.S., Ph.D.

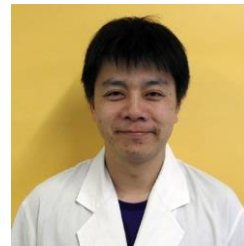
Assistant professor; Masami TAKAHASHI D.D.S., Ph.D.



Kazuharu IRIE



Toru SHIBUI



Masami TAKAHASHI

### Main research in progress

Hard tissue biology and periodontal tissue regeneration including

- 1) The role of osteocyte in bone remodeling
- 2) The role of non-collagenous proteins in dentin and bone mineralization
- 3) Regeneration of periodontal tissue during dental implant and dental transplant

### Current publications

- \* Shibui T, (Irie K) et al. Architecture of connective tissue regenerated by enamel matrix derivative around hydroxyapatite implanted into tooth extraction sockets in the rat maxilla. *Anat Sci Int*, 95:334-341, 2020  
DOI: 10.1007/s12565-020-00526-2
- \* Takebe H, (Irie K) et al. Sonic hedgehog regulates bone fracture healing. *Int.J.Mol.Sci*, 21(2);677, 2020  
DOI: 10.3390/ijms21020677
- \* Shalehin N, (Irie K) et al. Boric acid inhibits alveolar bone loss in rat experimental periodontitis through diminished bone resorption and enhanced osteoblast formation. *J Dent Sci*, 2020 in press  
DOI: 10.1016/j.jds.2019.09.009
- \* ShimoT, (Irie K) et al. Expression and Role of IL-1 $\beta$  Signaling in Chondrocytes Associated with Retinoid Signaling during Fracture Healing. *Int.J.Mol.Sci*. 21(7);2365-, 2020  
Doi:10.3390/ijms21072365