

Curriculum Vitae

Profile

First name/Surname: **Yusuke TSUTSUMI**

Academic degree: Ph.D. in Engineering

Affiliation: Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University

Job title: Associate Professor

Birth date: July 23th, 1978

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Academic Career

2001. Mar.

Department of Metallurgical Engineering, Faculty of Engineering, 2001, Tokyo Institute of Technology. Graduated.

2003. Mar.

Department of Metallurgy and Ceramics Science, Division of Science and Engineering, Graduate School of Tokyo Institute of Technology. Master's Course Completed.

2006. Mar.

Department of Metallurgy and Ceramics Science, Division of Science and Engineering, Graduate School of Tokyo Institute of Technology. Doctoral Course Completed.

Ph.D. in Engineering, Tokyo Institute of Technology

2006. April

Research Associate. Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University.

2007. April

Assistant Professor. Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University.

2007. April

Assistant Professor. Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University.

2013. Jan. - Present

Associate Professor. Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University.

Research Field

- ✓ Metallic engineering
- ✓ Biomaterial engineering
- ✓ Corrosion engineering
- ✓ Electrochemistry

Academic Society Affiliations

- ✓ The Japan Institute of Metals
- ✓ Japan Society of Corrosion Engineering
- ✓ The Japanese Society for Dental Materials and Devices
- ✓ Japanese Society for Biomaterials
- ✓ The Surface Finishing Society of Japan

Research Topics

Bio-functionalization of metals with electrochemical surface modification

Bio-functionalization of metals is investigated with surface treatment techniques such as molecule immobilization and anodic oxidation. These surface treatments make it possible to inhibit protein adsorption, platelet adhesion and biofilm formation, and to enhance wear resistance and hard-tissue compatibility.

Development of novel alloys and porous composites for biomedical applications

Novel alloy systems for biomedical applications are designed from the viewpoints of mechanical properties and biocompatibility. Co-Cr-Mo alloys having high strength and ductility for dental applications are developed. The porous alloys having low Young's modulus are obtained with selective laser melting technique.

Development of Zr-based alloys for minimizing MRI artifacts

Zr-based alloys with low magnetic susceptibility, high strength and corrosion resistance are investigated for minimizing MRI artifacts by controlling their microstructure and constituent phase for aneurysm clips, artificial joints, and dental implants, etc.

Effort to minimize metal allergy

Countermeasure techniques for metal ion release from metallic biomaterials which causes metal allergy are investigated. Novel reagents of patch testing for the detection of sensitization to metal ions are developed.

Achievements

Summarized in following official website.

http://reins.tmd.ac.jp/html/100007254_en.html