SGDMFR Research Funding Annual Report

SGDMFR PROCESS

23/01

RESEARCH GRANT RECIPIENT

Prof. Dr. Matheus Lima de Oliveira

Honorary Visiting Researcher

Universitäres Zentrum für Zahnmedizin Basel, Universität Basel (UZB/Unibas), Switzerland

STUDY TITLE

Development and evaluation of an artificial intelligence system to reduce exomass-related metal artefacts in cone-beam computed tomography

ACHIEVEMENTS IN THE LAST YEAR

1. **PUBLICATIONS**

   a. **Published:** Oliveira ML, Bornstein MM, Dagassan-Berndt D. Feasibility of frozen soft tissues to simulate fresh soft tissue conditions in cone beam CT scans. Dentomaxillofac Radiol. 2024 Mar 25;53(3):196-202. doi: 10.1093/dmfr/twae004

   b. **Published:** Oliveira ML, Schaub S, Dagassan-Berndt D, Bieder F, Cattin PC, Bornstein MM. Development and Evaluation of a Deep Learning Model to Reduce Exomass-Related Metal Artefacts in Cone-Beam Computed Tomography of the Jaws. Dentomaxillofac Radiol. 2024 Nov 26:twae062. doi: 10.1093/dmfr/twae062.

   c. **Submitted for publication: "**Evaluation of exomass-related artefacts caused by dental implants of different materials in cone-beam computed tomography scans: an *ex-vivo* study" currently under review in *Clinical Oral Implants Research* journal

2. **SCIENTIFIC PRESENTATION**

   a. Oral presentation at the ECDMFR 2024 (European Congress of Dentomaxillofacial Radiology), held in Freiburg, Germany, from June 13 to 15, 2024. Title of the study: Feasibility of Frozen Soft Tissues to Simulate Fresh Soft Tissue Conditions in Four Cone Beam Computed Tomography (CBCT) Units.

November 4, 2024

Matheus L. Oliveira