*Clujul Medical*

To the attention of Professor Dan L. Dumitrașcu

02nd of September, 2015

Dear Professor Dumitrașcu,

Please find enclosed the manuscript entitled “Human tooth and root canal morphology reconstruction using magnetic resonance imaging” which we would like you to consider for publication as an original study in *Clujul Medical*.

This original study describes the visualization of the internal and external tooth anatomy with the aid of magnetic resonance imaging (MRI). As the conventional radiographic techniques and cone beam computed tomography provide either limited information on the dental pulp anatomy or may have harmful effects, MRI seems an appropriate alternative for diagnosis due to its safety and ability of imaging soft tissues. A prepared endodontically treated wisdom tooth was scanned using a Tesla Bruker Biospec MRI scanner with a micro-imaging accessory operating at 7.04 T and based on Avance III technology. Accurate images of the human tooth and endodontically shaped root canals morphology provided by MRI were obtained: the external morphology of mesial and distal roots as well as the correspondingly shaped root canals, root canal curvatures, the furcal region, the interradicular root grooves, and details of the apical finishing of the root canal treatment can be clearly seen. The authors found that MRI offers 3D image datasets with more information compared to conventional radiographic techniques. Due to its ability of imaging both hard and soft dental tissues, MRI can be successfully used as a 3D diagnostic imaging technique in dentistry.

The authors state that this material is original, that it has not been published elsewhere, and that it has been submitted only to *Clujul Medical*.

We would like to thank you in advance for considering our manuscript. We look forward to hearing from you.

Sincerely,

Dr. Oana Drăgan

Faculty of Dental Medicine

“Iuliu Haţieganu” University of Medicine and Pharmacy

15 Victor Babeş Street, 400012

Cluj-Napoca, Romania

e-mail: olarasu.oana@umfcluj.ro

Tel: 0040 722 661 334