

## **Review**

by **Prof. Dr. Borislav Chaushev, MD**

Head of the Department of " Periodontology and Dental Implantology "  
Faculty of Dental Medicine  
Medical University "Prof. Dr. Paraskev Stoyanov" – Varna

of the dissertation work for the acquisition of educational scientific degree

**"Medical Doctor"**

in the field of higher education education 7. Healthcare and sports ,  
Professionally direction 7.2.  
Scientific major "Therapeutic Dentistry".

**Dr. Konstantin Stoychev Kostadinov,**

Department of "Periodontology and Dental Implantology"  
Faculty of Dental Medicine  
Medical University "Dr. Paraskev Stoyanov" - Varna

Dissertation topic:

### ***MULTIMODAL IMAGING DOCUMENTATION IN DENTAL MEDICINE***

Dear members of the scientific jury,

With Rector 's order of the MU - Varna No. P-109-418/03.10.2023, and as a member of the Scientific Jury, I have been appointed to participate with a review on the defense of Dr. Konstantin Stoychev's dissertation

#### **Significance of the problem and formulation of the goal and tasks:**

Dental medicine is developing at an extremely fast pace, one of the main reasons being the integration of digital technologies in its various fields. An example of this is intraoral scanners (as an alternative to conventional impression techniques and materials), digital sensors (as an alternative to analog plate films), as well as the increasingly widespread use of CBCT scanners for the everyday needs of digital practice.

The topic of the dissertation is current and significant for dentistry and in particular for periodontology.

## **2. Structure of the dissertation:**

The dissertation has a classic structure. It is presented on 156 pages, contains 4 appendices and is illustrated with 39 tables, 98 figures and 6 graphs and contains the following sections: literature review, aim and objectives, hypotheses, material and methods, results and discussion, conclusions, contributions. The proportions among the individual sections are respected. I would like to point out that each of the parts of the dissertation work follows the logic of the set tasks and purpose, and the conclusions naturally arise from the own results, the statistical processing of the data and the discussions.

## **3. Literary awareness of the dissertation student:**

The bibliographical reference includes 259 cited literary sources, of which 16 in Cyrillic and 243 in Latin, the majority after 2015.

The literature review of the dissertation is presented in 39 pages, where the author thoroughly researches, compares and analyzes the accuracy of dentition reconstruction by means of generated 3D models from cone beam computed tomography and intraosseous scanning, and on plaster models from conventional impression materials.

The conclusions of the literature review are specific and directly related to the purpose and tasks of the scientific development.

## **4 . Methodological level and scientific research design:**

The scientific study included 40 patients for a four-year period from 2019 to 2023, selected according to strict inclusion and exclusion criteria, which are closely related to the tasks set and allow the relevant conclusions to be drawn.

The results were processed using statistical methods.

The research methods and clinical material chosen by the author have enabled the achievement of the set goal, and the tasks set for resolution have received an adequate response.

## **5. Consistency between the goal, the results and the conclusions:**

There is a logical correspondence among the goal set, the results obtained, the discussion and the conclusions drawn. Own results and discussion are set out in 56 pages and are richly illustrated.

## **6. Analysis of conclusions and contributions:**

The dissertation ends with 16 conclusions and 8 contributions, which are formulated in great detail and clearly. I accept the contributions according to the author's self-assessment, and I want to emphasize that the dissertation work is the first study in Bulgaria that is conducted for in vivo research, where 3D reconstructions of mandibular dentition are generated after a cone beam computed tomography scan, as well as comparing for the first time the accuracy of 3D reconstructions from mandibular dentition after a cone beam scan computerized tomograph with such from intraoral scan, print with A-silicone and impression with polyether.

## **7. Character and critical notes and recommendations:**

There are no critical comments questioning the methods, the evidence material, the discussion of the results obtained, and the conclusions drawn.

## **8. Publications and scientific events:**

- The results of the dissertation author's scientific research on the topic have found a place in 2 scientific journals and have been published in Scripta Scientifica Medicinae Dentalis and the International journal of medical dentistry.

## **9. Conclusion:**

**Bearing in mind the scientific merits of the dissertation work, namely: relevance of the problem and the obtained results, the significant conclusions and contributions of the dissertation author, I strongly recommend to the members of the respected scientific jury to award the educational scientific degree "Medical doctor" to Dr. Konstantin Stoychev Kostadinov for the dissertation work "MULTIMODAL IMAGING DOCUMENTATION IN DENTAL MEDICINE".**

Prof. Dr. Borislav Chaushev, MD