

REVIEW

by **Assoc. Prof. Dr. Hristina Ivanova Arnautska, DMD, PhD**

Head of Department of Orthodontics, Faculty of Dental Medicine, MU-Varna

Internal member of the Scientific jury, according to an order of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov"-Varna- № P-109-518/30.11.2023

Subject: Competition for the academic position "Associate Professor" in the field of higher education "7. Health care and sports", professional direction " 7.2. Dental medicine" for the needs of the Department of Orthodontics (published in the SG, no. 83 of 03.10.2023)

Candidate: Chief Assist. Prof. Dr. Iliyana Georgieva Atanasova, DMD, PhD – Chief Assistant Professor at the Department of Orthodontics, Faculty of Dental Medicine, Medical University – Varna

Candidate's career profile

Dr. Iliyana Georgieva Atanasova, DMD, PhD was born in 1979 in Varna. In 1996 she graduated with excellent results from the High school "St. Kliment Ohridski" Varna ,profiled with Russian and English language programme. In 1999 she graduated with excellent results from the Medical College of Varna specialty Pharmacy with professional qualification assistant pharmacist. In 2011 she obtained Master's Degree in Dental Medicine at the Medical University of Varna and graduated with honors and awards. She was granted with "GOLDEN HIPPOCRATES" Award as a holder of DIPLOMA MAGNA CUM LAUDE of Alumni 2011 and Diploma "STUDENS OPTIMUS" –Prof. Dr. Slavcho Davidov for excellent results and high academic achievements in the academic, scientific and creative activities of Alumni 2011. After graduating since 2011 to 2013 she was Assistant Professor for 2 years at the Department of Orthodontics. After a short break from 2017 she is a full time employee as Assistant Professor at the Department of Orthodontics, Faculty of Medicine at MU-Varna. In 2020, Dr. Atanasova acquired a specialty in Orthodontics. In 2019, she was admitted as a full-time PhD student at the Department of Orthodontics and was selected as an Administrative Assistant to the Department of Orthodontics. In 2022, she acquired the educational and scientific degree "Doctor" . In 2022 after a competition, she took the position of "Chief Assistant Professor" in the Department of Orthodontics. She is fluent in English and Russian. Member of BDA, BOO, BOAS.EOS, ADA.

Overall assessment of the documentation submitted for the participation in the competition.

The materials submitted for participation in the announced competition for the academic position "Associate Professor" in Orthodontics are in accordance with the requirements of the

Law on Academic Staff Development and the Regulations for the Development of Academic Staff and Academic Positions at the Medical University - Varna.

Ch. ass. Prof. Dr. Iliyana Atanasova, DMD, PhD applied for the competition with scientific publications meeting the minimum scientometric requirements for occupying the academic position of Associate Professor. For participation in the competition scientific works are presented as follow:

1. Dissertation on the acquisition of scientific and educational degree "Doctor" on "Evaluation of individual indicators for orthodontic treatment of children in mixed and permanent dentition", 2022.
2. Monographic work on " Age determination by morphological and physiological characteristics of dental tissues", 2023, ISBN 978-619- 221-431-9.
3. There are 9 full text publications, of which:
 - 3 publications published in scientific journals, referenced and indexed in world databases with scientific information such as Scopus and Web of Science. ,
 - 3 publications and reports published in non-refereed journals with scientific review
 - 3 publications beyond the minimum scientometric requirements for acquiring academic position "Associate Professor" in non-refereed journals with scientific review

All publications are correctly and precisely described and applied in full in electronic format to the materials for the competition. The total number of points from the actually published articles is 229.5.

Of 4 publications Dr. Atanasova is an independent author, of one is the first author, of three is a second author and of one publication - a fourth.

In addition, the candidate provides information about 3 more full-text publications that are not subject to review for this competition. They are related to the acquisition of the scientific and educational degree " Doctor ".

Dr. Atanasova participated in 8 scientific forums in Bulgaria and abroad after acquiring the PhD degree, which contributes to the popularization and good visibility of her scientific work. The presented scientific papers and the results of the research work are divided thematically in the following scientific fields:

1. Dental age of Bulgarian children in mixed and permanent dentition (Г7.3, Г8.3)
2. Skeletal age of Bulgarian children 7-17 years. Mean chronological age of Bulgarian children during the phases of pubertal pick CVM II, CVM III и CVM IV. (A1)
3. Study of individual indicators of puberty growth period and development. A prognostic model on orthopantomography for initiation of orthodontic treatment.(A1, B3)
4. Incidence of tooth germ mineralization stage of permanent teeth in the pubertal growth period. (Г7.2, Г8.1, Г8.2)
5. Determination of age at different stages of human ontogenetic development by different characteristics of dental tissues (B3)
6. Mouth breathing in children in mixed and permanent dentition and associated dental and occlusal deformities (Г7.1)

7. Pathology of dental eruption and rotation of upper permanent first molars (Publications beyond the minimum scientometric requirements)

An academic reference is presented for 19 citations, which are evidence of the evaluation of the quality of publications and their reflection in the scientific literature. Citations bring 135 points, of which 2 citations are in refereed and indexed scientific editions and 17 citations are in non-refereed journals with scientific review and in monographs.

An academic reference issued to confirm Dr. Atanasova's registered research profiles in three databases is presented: Google Scholar, Research Gate and ORCID.

The contributions from the research activities of Dr. Iliyana Atanasova can be differentiated as follows:

1. Contribution of an original nature

For the first time in Bulgaria, a model is being developed to determine the puberty growth period on orthopantomography by assessing individual indicators of growth and development.

2. Scientific-theoretical contributions

- An assessment of dental age by the Demirjian method and the Willems method was made in Bulgarian children aged 7-16 years and the accuracy of both methods in determining dental age relative to chronological age and between them was examined.
- The mean chronological age in girls and boys was established before the peak of pubertal development in stage CVM II, at the peak of pubertal development in stage CVM III and after the peak of pubertal development in stage CVM IV by the method of cervical spine maturity by Baccetti.
- The stages of mineralization of teeth 23, 33, 35, 37, 38 in the stages of skeletal age - CVM II, CVM III and CVM IV by Baccetti were established.

3. Scientifically applied contributions

- The Willems method for assessing dental age in Bulgarian children aged 7-16 years is recommended.
- A model is presented to determine the puberty growth period on orthopantomography, by assessing the degree of mineralization of different teeth in combination with chronological age and sex.

In the monographic work of Dr. Iliana Atanasova on the topic: "Age determination by morphological and physiological characteristics of dental tissues", she presents the phylogenetic and postnatal development of maxillofacial structures. For the first time in Bulgaria, a systematic consideration of the growth and development of each individual is presented. Modern methods for determining the dental, skeletal and chronological age not only of growing patients, but also of non-growing patients are classified, enabling the determination of chronological age according to dental markers in persons over 18 years of age.

The peak of growth is the most optimal period for the treatment of malocclusions. Knowledge of the principles and concepts of development allow more precisely to diagnose and plan the most appropriate beginning of orthodontic treatment with maximum orthopedic impact on the upper and lower jaw.

Dr. Iliyana Atanasova created and presented for the first time in Bulgaria a model for determining the puberty growth period on orthopantomography by assessing individual indicators of growth and development, and developed guidelines for the initiation of orthodontic treatment for orthopedic correction of malocclusions. The peak of puberty development (Skeletal Age CVM III) in Bulgarian children is 11.58 - 12.02 years for girls and 12.12 - 12.93 years for boys. This is also the most favorable moment for the treatment of Class II malocclusions with the possibility of maximum change in the anterior-posterior position of the lower jaw. After examining the degree of mineralization of maxillary and mandibular canines, mandibular second premolar and second molar by the method of determining dental age by Demirjian she found that the peak of puberty in boys corresponds to completed root development of maxillary and mandibular canine. In girls, puberty peak correlates with complete root development of the mandibular canine tooth alone.

The prepubertal period (Skeletal age CVM II) in Bulgarian children is up to 11.63 - 11.98 years for boys and up to 9.91 - 10.54 years for girls. This is the most favorable moment for the treatment of Class III malocclusions with a maximum effect on the growth of the upper jaw. After examining the degree of mineralization of maxillary and mandibular canines, mandibular second premolar and second molar by the Demirjian method of determining dental age, she found that this chronological age in boys corresponded with stage G of root development of maxillary and mandibular canines, as well as the mandibular second premolar. In girls, the assessment of the dental age of the two canines showed the same result, while the degree of mineralization of the mandibular second premolar and molar she found that they were in an earlier immature stage-F by Demirjian.

Complex, qualitative assessment of educational-methodological and teaching activities

Ch. Ass. Prof. Dr. Iliyana Atanasova has 8 years and 4 months teaching experience and 8 years and 7 months professional experience, and the last three years she has acquired a specialty in Orthodontics. The academic transcript for the academic employment of Dr. Atanasova shows that the average academic workload covers the norm of 360 academic hours almost the entire period: 2018/2019 – 358 hours; 2019/2020 – 378 hours; 2020/2021 – 367 hours; 2021/2022 - 344 hours and 2022/2023 – 395 hours. She participates in the training of both Bulgarian-language students and foreign language students. In the last year Dr. Atanasova participated in the training of post-graduate students in Orthodontics.

Compliance with the requirements of MU-Varna for occupying the academic position of Associate Professor

The presented academic transcript shows that Ch. Ass. Prof. Dr. Iliyana Atanasova meets, and in some groups, indicators exceed the minimum scientometric requirements for occupying the academic position "Associate Professor", according to the Rules for Development of the Academic Staff of MU-Varna (Table1).

Table1. Compliance with the scientometric requirements of the Medical University-Varna to occupy the academic position of “Associate Professor.”

Indicator groups	Scientific work	Required number of points	Number of points based on evidence presented by the applicant
A/Indicator 1	Dissertation for scientific and educational degree "Doctor" before associate professor	50 p.	50 p.
C/Indicator 3	Habilitation work - monograph	100 p.	100 p.
D/Sum of Indicators 5-9	Total publications	200 p..	207 p.
E/ Sum of Indicators 10-12	Citing	50 p.	135 p.

Overall assessment of the applicant regarding the compliance of the mandatory conditions for quantitative criteria and scientometric requirements according to the Rules of Organization and Procedure of MU – Varna

Dr. Atanasova's scientific output is an indicator of her competence in the field of research and shows her professional training and practical experience, her interests, dedication and precision in the research quests in the field of orthodontics.

Conclusion

The candidate in this competition Dr. Iliyana Atanasova fully meets the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Rules for its Application and the Regulations for the Development of the Academic Staff at MU-Varna for the academic position of Associate Professor.

In conclusion, I would like to emphasize again that I have known Dr. Iliyana Atanasova since her student years and have witnessed her career, scientific and professional growth. It has a continuous aspiration for self-improvement and a high potential for further development as a specialist, researcher, lecturer and future supervisor of postgraduate and PhD students.

The career development, scientometric indicators and personal qualities of Dr. Iliyana Atanasova give me grounds to give my **positive assessment and to** confidently propose to the members of the Scientific Jury to choose Chief Assistant Dr. Iliyana Georgieva Atanasova, DMD, PhD for granting the academic position "Associate Professor" in the field of higher

education 7. Health care and sports, professional field 7.2. Dental Medicine in the specialty "Orthodontics" for the needs of the Department of Orthodontics at the Faculty of Dental Medicine at MU Varna.

05.02.2024
Varna

Chairman of the Scientific Jury:

Assoc. Prof. Dr. Hristina Ivanova Arnautska, DMD, PhD

Head of Department of Orthodontics, Faculty of Dental Medicine,
MU-Varna

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