

To
Corresponding member prof. Christina Nikolova Grupcheva, MD, PhD, DSc, FEBO,
FICO(Hon), FBCLA, FIACLE
Chairman of the Scientific Jury,
Following an order No. P-109-365/ 21.09.2022
Of the Rector of the Medical University
- Varna

In response to Protocol No. 1/05.10.2022

I present to the honorable Scientific Jury a review,
regarding competition for the position of a "Professor"

Scientific specialty in Oto-rhino-laryngology

Professional area "7.1. Medicine",

announced by the Medical university - Varna and announced in State Gazette, no.
59/7.26.2022

There is one candidate in the competition: Assoc. prof. Dr. Nikolay Roumenov
Sapundzhiev, MD

Department of "Neurosurgery and ENT-diseases", MU-Varna

REVIEW

by Prof. Dr. Valentin Kostov Stoyanov, MD

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I. Career profile of the candidate

Assoc. d-r Assoc. prof. Nikolay Roumenov Sapundzhiev was born on 21.09.1972 in Varna. In 1997, he graduated in medicine and was appointed as a resident doctor at the Clinic for ENT Diseases in Varna. In the period 2004-2005, he worked at the UMBAL "Tsaritsa Ioanna-ISUL", Sofia as a resident, and in 2006, after winning a competition, he started his research and teaching career as a physician assistant at the ENT-department, UMBAL "St. Marina", Varna. He was later elected as a senior assistant in the same department. He obtained his specialty in Ear, Nose and Throat Diseases in 2003. He is currently the head of the clinic for ENT diseases in the UMBAL "St. Marina" - Varna. In 2011, he graduated with a master's degree in the specialty "Health Management". In 2006 after successfully defending his dissertation on the topic "Incidence of lymph node metastases after piecemeal laser-surgical and en bloc cold steel resection of auricular VX2 carcinoma. A comparative study" he obtained the title of "Doctor" in the scientific specialty "Otorhinolaryngology" in the Professional area "Medicine". In 2013, again after a competition, he was appointed full-time associate professor in the same Department. Assoc. prof. Nikolay Roumenov Sapundzhiev has numerous specializations related to highly specialized activities in the specialty of Otorhinolaryngology.

Assoc. prof. Nikolay Roumenov Sapundzhiev is an accomplished specialist in otorhinolaryngology, with an excellent command of modern diagnostic and surgical methods in the specialty of Otorhinolaryngology, head and neck surgery, especially in the area of the larynx, pharynx and neck, pediatric otorhinolaryngology and innovative surgical methods. He is a leading specialist in the problems of "difficult" airways in newborns and children of nursery age. He possesses the necessary theoretical, methodical and practical skills for the development of modern scientific activities in the field of otorhinolaryngology. Proof of this are both the qualification course completed in 1996 in the specialty "Translation and processing of scientific information" at the Faculty of Law of the Technical University - Varna, as well as the large number of scientific publications in good Bulgarian and foreign specialized medical journals.

Assoc. prof. Nikolay Roumenov Sapundzhiev is a member of the following international and Bulgarian societies:

- BLS (Bulgarian Medical Association)
- Bulgarian National Society of Otorhinolaryngology, Head and Neck Surgery - since 2004 and continues.
- Deutsche Gesellschaft für Hals-Nasen-Ohren-Heilkunde, Kopf- und Hals-Chirurgie e.V., Bonn – since 2004 and continues.
- European Laryngological Society - since 2007 and continues.
- European academy of sleep medicine - since 2007 and continues.
- Bulgarian Rhinologic Society - since 2012 and continues.
- European Rhinologic Society – since 2012 and continues.
- European Academy of Facial Plastic Surgery - since 2016 and continues.
- Union of the European Phoniaticians - since 2017 and continues.
- European Airway Management Society – since 2018 and continues.

II. The documents of Assoc. prof. Dr. Nikolay Roumenov Sapundzhiev, MD meet the requirements in the Regulations on the Development of the Academic staff at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. They are very well arranged and contain sufficient evidence.

III. Evaluation of the scientific production:

(Overall assessment of scientific production and publication activity)

For the current competition Assoc. prof. Nikolay Roumenov Sapundzhiev has submitted 42 scientific publications (all in the period after holding the position of Associate Professor!), 2 sections in one textbook and one study aid. There are 27 positive citations, presented with evidence. In parallel, there are numerous participations in national and European scientific forums with reports and communications (79).

The topics represented in the candidate's scientific production are diverse and of legitimate interest to modern researchers.

Assoc. prof. Nikolay Roumenov Sapundzhiev has made an original contribution to the study of one of the leading oncological diseases in our country - cancer with primary localization in the head and neck region. It presents a comparative analysis of the diagnostic value and clinical potential of some modern imaging methods (FDG-PET-computed tomography) and the gold standard in the specialty (endoscopic diagnostic modalities) (G7.09). His publications are specifically focused on the problems of laryngeal cancer, its etiology, specific issues in the management and the rehabilitation of the patients. A study of the relationship between smoking and carcinoma of the larynx has been presented, and it is the only one of its kind in recent decades in our country. For the first time, a differentiation is made between the directly inducing and only the precipitating role of cigarette combustion-related substances and laryngeal carcinoma. The study confirms the importance of this risk factor in the etiology of the disease (N.09). A detailed analysis of a rare clinical case of low grade fibromyxoid sarcoma of the larynx is presented. At the time of publication (2021), this is one of no more than 10 published similar cases worldwide and the first with such an etiology (G7.04). The surgical technique for endoscopic management of pharyngocutaneous fistula after laryngectomy proposed by Assoc. prof. Nikolay Sapundzhiev is innovative. The potential of the method is confirmed by 5 citations of this work in a positive aspect (D8.09, B4.02). Assoc. prof. Sapundzhiev is active also in the field of surgical speech rehabilitation of laryngectomized patients (G7.1, G8.2 and G8.5). The surgical technique for tracheoesophageal puncture he developed demonstrates potential advantages for reducing operative trauma, especially in high-risk patients after radiotherapy, with results comparable to those of established centers worldwide.

As mentioned above, Assoc. prof. Nikolay Sapundzhiev also shows activity in the field of pediatric otorhinolaryngology. Along with a published review of current problems related to chronic laryngeal stridor in young children (G8.03), he also presents serious own clinical results in the field mentioned, published with his team. He presents the laryngoscopic appearance in eight children with genetic hypomyelination and atrophy of the basal ganglia and cerebellum, providing clinicians with clarity to differentiate the various forms of laryngomalacia (G7.02, G8.03). Presented are own long-term results with conservative treatment of subglottic hemangiomas in infants with a beta-blocker. The cases were well followed endoscopically and the publication contains excellent illustrations, which make it extremely useful for the clinical otorhinolaryngological practice (G7.03).

Also presented are 2 interesting clinical cases. One of them is related to a rare complication after Fontan operative correction of a severe congenital heart malformation - a common chamber with double inlet and outlet (B4.7). The second one is a clinical case of

granulomatosis with polyangiitis (the so-called Wegener's granulomatosis) in a pediatric patient with late diagnosis only after having developed a subglottic stenosis. The practical benefit of the publication for pediatricians and otorhinolaryngologists is that idiopathic subglottic stenosis in children can lead us to the diagnosis of granulomatosis with polyangiitis (B4.08).

Another review summarizes the possibilities and particularities of using nasal irrigations as a primary or complementary treatment of allergic rhinitis in the pediatric population (G8.06).

Another field of the scientific works of Assoc. prof. Nikolay Roumenov Sapundzhiev is related to evaluation of the frequency of some specific otorhinolaryngological conditions and diseases in our country. The data allow comparison with similar studies from other geographical regions. To a large extent, these projects have been made possible as a result of the data accumulated in the local patient and oncology registry created by the author - something that is undeniably valuable and useful for any researcher. On this basis, statistical information on the demographic profile of patients with oncological diseases with primary localization in the field of the head and neck is presented, while at the same time a comparison is made between individual primary localizations, the main histopathological groups and the incidence on an annual basis. This is the first such in-depth institutional study (B4.05). Of interest is the study on the vomeronasal organ - an additional olfactory organ in vertebrates, specialized in the chemoreception of pheromones. Based on an analysis of almost 1000 Bulgarian patients, the applicant found that this structure occurs (endoscopically proven) in about a quarter of the human population (B4.09). Two of the presented projects are related to the study of congenital and acquired changes of the auricle. Preauricular sinus (PAS) is a congenital malformation of the pinna that occurs as an isolated phenomenon or as a component of a number of oto-renal syndromes. An incidence of 3% was found in our population of this pathology. The incidence of PAS in the cohort studied by the candidate is similar to that of other Caucasian groups. The analysis of the family trees suggests dominant inheritance with incomplete penetrance (G8.07). An interdisciplinary project in which Assoc. prof. Sapundzhiev is one of the leading researchers, analyzes own results on one of the "eternal topics" in otorhinolaryngology - Frank's sign. A potential correlation between the specific changes of the auricle and heart mass, the thickness of the walls of the left and right chambers is evaluated. This is the first attempt at anatomical-pathophysiological explanation of the mechanism of development of these changes of the earlobe (G7.08).

The scientific pursuits and achievements of Assoc. prof. Nikolay Roumenov Sapundzhiev are not limited to what has been mentioned so far. Of particular interest are the several publications on innovative surgical techniques and application of new technologies in otorhinolaryngology. The candidate presents original results of his modified surgical technique for tracheoesophageal puncture. The results seem to be mature and demonstrate advantages in terms of reducing operative trauma in vulnerable patients, especially after postoperative radiotherapy and in complex anatomy (G7.01).

An own clinical case of endoscopic autologous adipose tissue transplantation for correction of pharyngocutaneous fistula after laryngectomy is presented, which arouses interest in the ENT community, as evidenced by the subsequent 5 positive citations (B4.02).

Another noteworthy development of Assoc. prof. N. Sapundzhiev is based on the ideas of Prof. Dr. Ivan Tsenev. This is a surgical technique for open arytenoidectomy with long term intralaryngeal stenting in patients with bilateral vocal cord paralysis (N.10).

An in-depth review of clinical practices regarding tonsillar surgery and their evolution over time helps our otorhinolaryngologist to overcome the routine attitude that only complete removal of palatal tonsils is correct. Intracapsular tonsillar surgery was slowly established in

the current surgical practice in our country, especially for cases with pediatric obstructive sleep apnea (N.11).

Of particular interest is the comparative study of the safety profile of numerous surgical powered devices used routinely in modern otorhinolaryngological surgery. The in-depth review and the results of the own experimental setting underline the need for a worked-out strategy at the local and national level in this regard (G8.01).

Among the articles presented to me for review is an extensive review of the current possibilities of endoscopic access for diagnosis and surgery of diseases of the ENT organs and the head and neck region (G8.04). On the background of the historical development and the modern technological achievements (including robotic surgery), the tendency for exponential development of endoscopic approaches becomes obvious. Similar is the review on the specific applications of stroboscopy in H&N oncology - a diagnostic modality that is still seldom used in our country (N.02). An original method for standardized quantitative endoscopic examination of the larynx is presented in publication N.08. It served later as a foundation for other scientific and clinical works. It also led to the development of a proprietary modified laryngological instrument, described in Utility model registration certificate No.2702/13.09.2017, issued by the Patent Office of the Republic of Bulgaria.

Last but not least, I would note those publications that are related to rare conditions. These publications describe:

- case of a patient with hemangiopericytoma of the larynx. At the time of publication (2017) this is one of only 12 published similar cases worldwide and the first one with such a fulminant course (G7.04).
- a case of a patient with a severe form of empty nose syndrome, with manifestations beyond the current classifications - a result of infectious disease and iatrogeny. For the first time different types of histological changes are described in the same patient at the same time and their evolution is followed over a period of 7 years (B4.04).
- a rare case of a patient with an aberrant course of both internal carotid arteries in the region of the epipharynx, accompanied by a review on the epidemiology, etiology, and clinical manifestations of the condition. Carotid arteries with an aberrant course unilaterally or bilaterally should be considered in the clinical work because of the risk of severe and fatal postoperative bleedings in otorhinolaryngology (B4.06).
- case of a patient with a giant fibrovascular esophageal polyp. The interdisciplinary diagnostic and therapeutic approach in this rare pathology is depicted. An original approach for endoscopic resection through a Weerda distending diverticuloscope, applying local sclerotherapy and use of a flexible gastroscope is described (N.05).

The COVID-19 pandemic at the end of 2019 provoked Assoc. prof. Nikolay Sapundzhiev, as many other physicians got involved in this topic. The first description of histological findings from the olfactory bulbs and frontal lobes of patients deceased from SARS-CoV2 infection. The findings were of necrotizing olfactory bulbitis with severe neuronal degeneration and neuronal necrosis. The study correlates these changes with histopathological changes in other organs and systems. Since both the olfactory bulb and the frontal lobe of the brain are the key areas of olfaction, it is hypothesized that this tropism of SARS-CoV2 to neuronal structures in these areas may represent the key role to the development of anosmia rather than any other disorders in the nasal cavity (G07.05).

The publications of Assoc. prof. Nikolay Sapundzhiev in international, peer reviewed and indexed in international bibliographic databases are above the requirements for achieving a professorship. They get noticed by fellow researchers. For the time period 2013-2022 his publications have been cited 27 times, the majority of these citations being in journals with an impact factor. The publications in journals with an impact factor and the citations by journals with an impact factor lead to an overall impact factor of the candidate of 21.41 and a h-index of 8 – a good achievement by a clinical physician.

His ability for teamwork is evidenced by the fact he was appointed for head of the ENT clinic at the UMBAL "St. Marina" - Varna, as well as by his leadership in the management of a project under the Science Fund 14020/2014 entitled "Study of anatomical characteristics of the larynx in newborns and toddlers in normal and pathological conditions with endoscopic methods" and numerous courses for postgraduate education.

He has supervised 6 doctoral students, four of whom have already successfully defended their doctoral theses.

Assoc. prof. Nikolay Sapundzhiev is lecturing the courses in Otorhinolaryngology (ENT-diseases) for students of medicine and dentistry (Bulgarian and English language education), nurses, midwives and speech therapists at the FOZ, as well as Phoniatics for speech therapists at the FOZ.

Evaluating the overall activity, scientific development and professional career of Assoc. prof. Nikolay Roumenov Sapundzhiev, the following conclusions can be drawn regarding his original contributions of a significant scientific and practical nature:

- For the first time, a differentiation is made between the directly inducing and only the precipitating role of cigarette combustion-related substances and laryngeal carcinoma.
- For the first time, he proposed and applied an endoscopic technique for the correction of pharyngocutaneous fistula after laryngectomy.
- For the first time he presented detailed statistical information on the demographic profile of patients with oncological diseases with primary localization in the field of the head and neck is presented, while at the same time a comparison is made between individual primary localizations, the main histopathological groups and the incidence on an annual basis
- He participated in the development of the surgical technique for open arytenoidcordectomy with long term intralaryngeal stenting in patients with bilateral vocal cord paralysis.
- He developed a modified laryngological instrument, described in Utility model registration certificate No.2702/13.09.2017, issued by the Patent Office of the Republic of Bulgaria.

IV. Overall assessment of the applicant's compliance with the mandatory conditions, quantitative criteria and scientometric indicators, according to the Regulations on the Development of the Academic staff at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

Mandatory quantitative scientometric criteria for the academic position "Professor" at the MU-Varna

Group of indicators	Contents	Minimum requirements	Evaluation of the candidate
A	Indicator 1	50 points	50 points
B	Indicator 3 or 4	100 points	141.59 points
G	Indicators 5-9	200 points	220.75 points
D	Indicators 10-12	100 points	180 points
E	Indicators 13-22	100 points	166.14 points
TOTAL		550 points	758.48 points

Assoc. prof. Nikolay Roumenov Sapundzhiev applies with more than the required number of publications in our and national and international journals (the same applies to positive citations), he is a co-author in one textbook and one teaching aid and has a high impact factor. The applicant meets all the criteria for participation in the competition and significantly exceeds all of them (except indicator 1).

Assoc. prof. Nikolay Roumenov Sapundzhiev is a scientist and university professor, with a marked affinity for novelties in otorhinolaryngology. He is constantly improving, has a good audience command when lecturing, possesses leadership qualities, can motivate students and young scientists for achievements in novelties in medicine.

My personal impressions of Assoc. prof. Nikolay Roumenov Sapundzhiev are: a brilliant surgeon, an eminent scientist, a wonderful professor, commanding speaker, a good physician and a leader in the profession. His excellent ability for teamwork, to successfully lead a group of specialists of different generations, predominantly young people, and his fluency in several foreign languages only complement his portrait.

Conclusion:

The scientific works presented in the competition by Assoc. prof. Dr. Nikolay Roumenov Sapundzhiev, MD, are in the field of the scientific specialty of otorhinolaryngology and fully meet the criteria of Law for the Development of the Academic Staff in the Republic of Bulgaria, the Rules for its implementation and the Regulations on the Development of the Academic staff at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna for holding the position of a university professor.

Assoc. prof. Nikolay Roumenov Sapundzhiev demonstrates indisputable depth and breadth in his scientific, clinical and teaching activity.

I give a clear positive opinion of the overall activity of Assoc. prof. Nikolay Roumenov Sapundzhiev and I would wholeheartedly propose to the members of the honorable Scientific Jury to vote positively for him to be elected to the academic position "Professor of Otorhinolaryngology".

14.10.2022 г.

Reviewer and member of the scientific jury:

/ Prof. Dr. Valentin Kostov Stoyanov, MD/

