

## REVIEW

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### about

competition for the academic position of "Professor", announced in State Gazette No. 35/25.04.2025, in the field of higher education 7. "Health and Sport", professional field 7.1. "Medicine" and scientific specialty **"Thoracic Surgery"** for the needs of the **Clinic of Thoracic Surgery** of "Acibadem City Clinic Tokuda University Hospital" EAD. The Scientific Jury was appointed by the Order No. 15-03-190#2/24.07.2025 of the Executive Director and the Procurator of the Hospital and on the basis of the Decision of the Scientific Council (Minutes No. 958/05.06.2025). I am appointed as a reviewer.

The only candidate for the announced competition is Assoc.Prof. Tsvetan Radnev Minchev. He fulfils all the necessary requirements for participation in the competition for the academic position of "Professor", according to the Regulations for the Development of the Academic Staff of "Acibadem City Clinic University Hospital Tokuda" EAD. The submitted documents on electronic and paper mode are correct and in complete form, certified by the Scientific Department of Tokuda Hospital.

Associate Professor Tsvetan Minchev participates in the current competition with the monograph **"Robot-assisted surgery for esophageal carcinoma and gastroesophageal junction"**, published by "Simolini 94", 2025.

### Biographical data and professional development

Associate Professor Tsvetan Minchev was born on May 20, 1965 and graduated from the Faculty of Medicine - Sofia in 1989. His military service as a doctor in the Air Force in Dobroslavtsi, Sofia. From 1990 to 1991 he was a specialist in surgery at the surgical clinic of the MMA, after which he specialized in general surgery at the Clinic of Thoracic Surgery at the University Hospital of Pulmonary Diseases "St. Sofia". He acquired the specialty of General Surgery in 1996 and continued to work on same clinic until 2006, during which period he also acquired the specialty of Thoracic Surgery.

Since 2007 he became the Head of the Clinic of Thoracic Surgery at Tokuda Hospital - Sofia. In 2017 he defended his dissertation "Operative technique with pediculated omentum for the treatment of mediastinitis after cardio-surgical operations" and since 2018 he has been elected Associate Professor at the Clinic of Thoracic Surgery.

Associate Professor Minchev is a Republican Consultant in Thoracic Surgery (Order № RD-01-50/07/.02.2025). He is a member of the Expert Council of the Ministry of Health in Thoracic Surgery (Order No. RD-02-147/06.06.2025). Reviewer in Acta Medica Bulgarica. Expert at the Center for Pulmonary Fibrosis. |

### Scientific production

At the competition Assoc. for the AD "Professor" Tsv. Minchev participates with a total of 77 scientific works - 1 dissertation for the acquisition of the educational and scientific

degree "Doctor" and 76 after the acquisition of the AD "Associate Professor". He presented 1 monograph, 1 scientific manuscript in co-authorship and 31 scientific articles in peer-reviewed scientific journals (12 in Scopus / Web of Science, of which with IF - 10; 18 - in the National Reference List and 1 - international non-refereed journal with scientific peer review). Of the 32 publications presented, 11 are in English and 21 in Bulgarian. Twelve have been published in refereed and indexed Scopus or Web of Science databases. They are in prestigious international scientific journals. In 18 of them Assoc. Prof. Minchev is an independent or first author, in 8 - second author and in the remaining 8 - part of the team.

The candidate has participated in 43 Bulgarian and international scientific forums, in one of which he was a speaker at an international congress. Of the remaining 42 contributions as author and co-author, 11 were at international scientific forums, 11 at national scientific forums with international participation and 21 at national symposia. Associate Professor Tsvetan Minchev was an independent or first author of 34 of them.

#### **Citations and impact factor (IF)**

From the citation list provided by the CMB of MU Sofia, a total of 239 citations have been documented in the databases, of which 93 in Scopus and 79 in Web of Science.

**The total impact factor after Ass.Professor is 30,817. The individual IF is 6,11**

#### **Teaching and teaching activities**

According to the Certificate issued by *ASC Tokuda University Hospital EAD* the teaching load of Assoc. Minchev for the period 01.01.2020- 31.12.2024 amounts to a **total of 1016 eq. Hours**. This includes teaching and training of both undergraduates and specialist doctors.

#### **Analysis of scientific papers**

The thematic distribution of scientific papers is diverse and addresses significant and topical issues of thoracic surgery. They cover operative activity with conventional thoracotomy as well as those with thoracoscopic technique and robotic surgery. The research papers cover the following main topics:

##### **Congenital and acquired diseases of the lung**

- suppurative and inflammatory processes
- pulmonary echinococcus
- congenital polycystic lung disease

##### **Surgical oncology:**

- Surgical treatment of advanced lung cancer and mediastinal tumors, combined resections with ECC and cardiac surgery,
- Surgical treatment of esophageal carcinoma with robotic surgery including esophageal resection and reconstruction with minimally invasive techniques,
- diagnosis of mediastinal tumours,
- chest wall reconstructions and advanced breast carcinomas,

##### **resection-plastic surgery**

- Tracheal resections and reconstructions, Tracheal substitution,

- resection and reconstruction of mediastinal, pulmonary and other trunk blood vessels in intrathoracic malignant and benign diseases, - cuff pneumonectomy, carina resection,
- robotic cuffed tracheobronchial tree resections,
- stenting of trachea and carina in malignant stenoses,
- use of muscle flaps for chest wall reconstruction after breast resection
- extended thyroid and tracheal resections ,

#### **Other**

- treatment of postoperative mediastinitis
- thoracoplasty
- Surgical solutions for tracheoesophageal fistulas,
- Postoperative pain control with cryoablation.
- Benign diseases of the esophagus
- upper thoracic aperture syndrome

Many of the scientific developments represent a new stage in the diagnosis and treatment of diseases in thoracic surgery, with the introduction of robotic-assisted surgical treatment into clinical practice taking a central place.

#### **Contributions**

The candidate, Assoc. Prof. Tsvetan Minchev, has presented a list of his contributions of scientific-theoretical, scientific-confirmatory and scientific-practical nature. His contributions are numerous and impressive for the diversity of their subject matter and their high scientific value. I accept all of them, and will highlight the most important ones.

#### **Contributions of a scientific-theoretical value**

- An algorithm for an interdisciplinary approach to extended surgical interventions of the lung and mediastinum, in patients with malignant diseases, primarily defined as inoperable, is developed. The team experience of thoracic and cardiac surgeons with performing resection and reconstruction using ECC is emphasized.

#### **Contributions of a scientifically-confirmative value**

- It is pointed out that robotic technique for the surgical treatment of various congenital and acquired esophageal diseases, including benign and malignant tumors, is the method of first choice because of the minimal operative trauma and the exceptional ability to perform intracavitary suturing. The candidate is a pioneer in this field.
- The experience with the application of robotic surgery in various pathological conditions in the lung and mediastinum is analyzed and systematized.

#### **Contributions of scientific and practical nature**

- The essence of the dissertation work of Assoc. Prof. Tsvetan Minchev is focused on the treatment of patients with postoperative mediastinitis from various cardiac surgical interventions. A number of methodologies for the treatment of mediastinitis are evaluated and omentoplasty is chosen as a single-stage operation. A new technique for the operative treatment and prevention of osteomyelitis of the sternum with a double split omentum was developed.
- For the first time in Bulgaria robotic-assisted surgery of the lung, mediastinum and esophagus is introduced and systematically applied. More than 600 robotic surgical interventions have been performed of which more than 100 robotic surgical interventions for esophageal and gastroesophageal junction carcinoma.

- The experience with reconstructive surgery for esophageal and cardia cancer operated by an interdisciplinary team with both laparoscopy/thoracoscopy and robotic surgery is presented, applying various innovative techniques in the surgical intervention stages.
- A guideline for robotic minimally invasive esophagectomy (RAMIE) has been developed and is the consensus statement of the **SONM-MORE 2023** National Expert Board. It is the work of a multidisciplinary team including experts from different specialties in the field of esophageal carcinoma and gastroesophageal junction.
- For the first time in the world, Prof. Minchev applied a modified innovative method of reconstruction with entirely autologous tissues in malignant tracheal disease, in which total resection and substitution with a skin-cartilage autograft from a skin flap of the forearm and cartilage from the patient's rib arches was performed.
- For the first time in the world practice of thoracic surgery, Dr. Minchev performed the implantation of a 3D printed rib on a young patient after chest wall resection, presented at Congress 2022.
- For the first time in Bulgaria, an innovative intraoperative technique for patient pain relief using cryoanalgesia in the field of thoracic surgery was presented.
- The diagnostic value of transthoracic biopsy of mediastinal tumors is analyzed. The methodology published in the scientific literature is one of the most cited articles.
- The safety of cardiopulmonary bypass in non-small cell lung cancer invading the great vessels and/or left atrium in well-selected patients is highlighted, as well as its usefulness in maintaining ventilation during left pneumonectomy and carinal resection.

#### **Habilitation thesis evaluation**

The monograph of Assoc. Minchev is devoted to the extremely actual topic concerning the robotic surgery and in particular - the surgical treatment of esophageal carcinoma and gastroesophageal junction.

The monograph is written in 110 pages and is divided into short but meaningful parts. It is profusely illustrated with figures and illustrations, which for the most part are original to the author. 99 literary sources are cited, of which 9 are by Bulgarian collectives, almost all with the author's participation. This is in fact a sign of the great originality of the scientific work on a topic in which Associate Professor Dr Tsvetan Minchev is a pioneer in Bulgarian thoracic surgery.

The monograph begins with an overview of the evolution of mini-invasive and robotic techniques. The author describes the main surgical approaches for different localization of esophageal and cardia tumors (transthoracic or transhiatal esophagectomy). He emphasizes the need for sparing and minimally traumatic surgical approaches in esophageal and cardia cancer, which is the main leitmotif of his monograph.

The author analyzes the worldwide experience with the application of the robotic method in esophageal and cardia cancer, refracting it through his own clinical experience. He pays particular attention to preoperative investigations, patient preparation, the planning of the different stages and the path to achieving the final successful outcome.

The monograph presents in detail the different stages of the various surgical activities involved in the complex pathology of the esophagus and cardia. Of particular importance is

mediastinal lymphadenectomy as a stage of radical esophagectomy in esophageal cancer. A valuable contribution is the detailed presentation of the various intrathoracic anastomosis techniques.

An essential part of the monograph is the analysis of the complications that accompany any complex surgery. The author systematizes them and discusses the different ways of treating these complications, with the application of innovative mini-invasive approaches.

The monograph by Associate Professor Dr. Tsvetan Minchev has a high scientific and pioneering value, which places it among the world leaders in the field of robotic surgery of esophageal and cardia cancer.

### CONCLUSION

Assoc. Minchev is a pioneer in robotic thoracic surgery in our country. He performed a number of rare operations on patients with diseases in the lung and chest area. He applies innovative methods of surgical treatment, some of which are unique not only in Bulgaria, but also at the world level. Develops minimally invasive methods in the field of thoracic surgery. Works in multidisciplinary surgical teams in complex operations, together with cardiac surgeons, abdominal surgeons, plastic and ENT surgeons, invasive gastroenterologists.

The submitted works, publications, citations and other scientific activities fully comply with the requirements of the Law for the Development of Academic Staff in the Republic of Bulgaria in the field of higher education 7. "Health and Sport , professional field 7.1. Medicine, scientific specialty "Thoracic Surgery" for the academic position "Professor" and in most indicators significantly exceeds them.

**Compliance with the minimum national criteria for the academic position of Professor :**

Group of indicators	Content	Minimum points required by NACID for 'Professor'	Submitted points from Assoc. Minchev, Ph.
A	Indicator 1	50	50
B	Indicator 2	-	-
B	Indicators 3 or 4	100	100
Г	Sum of indicators 5 to 9	200	241.66
Д	Sum of indicators 10 to 12	100	2 915
Е	Sum of indicators 13 to end	100	170,6
<b>Total points</b>		<b>550</b>	<b>3 477,26</b>

All the above facts about the professional biography and scientific production of Assoc. Prof. Dr. Tsvetan Radnev Minchev, MD, give me a strong reason to recommend to the Scientific Jury to award him the scientific title "Professor" for the needs of the **Clinic of Thoracic Surgery** of "Acibadem City Clinic Tokuda University Hospital" EAD.

Sofia, 20.08.2025

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