

STANDPOINT

by Assoc. Prof. Eng. Marinela Yordanova Yordanova, PhD,

Member of the Academic Selection Committee according Order No P-109-143/23.02.2023 of Prof. Dr. Valentin Ignatov, MD, Rector of Medical University "Prof. Dr. Paraskev Stoyanov" - Varna

Subject: Announced competition for holding the academic position of professor in the specialty "Biomedical Engineering and Technologies" (Bulgarian-language training), professional field 5.2. Electrical Engineering, Electronics and Automation, Area 5. Technical Sciences - one, for the needs of the Department of Medical Equipment, Electronic and Information Technologies in the Healthcare, Faculty of Public Health, Medical University - Varna, announced in the State Gazette No. 102/23.12.2022.

In this competition documents for participation are submitted by one applicant - Assoc. Prof. Eng. Kristina Stanimirova Bliznakova, PhD. Assoc. Prof. Bliznakova has presented the required documents in compliance with the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations on Academic Staff Development of MU-Varna, meeting the necessary qualitative and quantitative criteria for acquiring the academic position of "professor".

1. Short biographical and professional details of the applicant

Assoc. Prof. Eng. Kristina Stanimirova Bliznakova, PhD was born on August 15, 1973 in the City of Shumen, Bulgaria. She graduated in "Electronic Engineering and Microelectronics", Master's degree at the Technical University of Varna in 1996. For the period 1996 to 1998 she acquired a Master's degree in Biomedical Technologies at the University of Patras, Greece. At the same University in 2003 she acquired a PhD in Biomedical Technologies. Currently, she is a student in the MSc Programme in "Medical Radiation Physics and Technology", Plovdiv University "Paisii Hilendarski".

For the period from 2004 to 2012 she worked as a scientific researcher in the Laboratory of Biomedical Technologies, Department of Medical Physics, Faculty of Medicine of the University of Patras, Greece.

Since 2019 she has been an associate professor at the Department of Medical Equipment, Electronic and Information Technologies in Healthcare, Faculty of Public Health, Medical University "Prof. Dr. Paraskev Stoyanov" – Varna.

Awards and achievements of the candidate:

- Varna Prize for 2021, awarded by the Municipality of Varna in the field of science and higher education, field "Physical Sciences".

- First place in the competition "PYTHAGORAS – successful manager of international projects", Ministry of Education, 2020.
- Award for achievements of the Ministry of Education and Science: «Most successful coordinator of the MaXIMA project under the HORIZON 2020 program», Sofia 2019.
- The HORIZON 2020 MaXIMA project has been declared successful on the European Commission's Success stories website, 2018.
- Varna Award, awarded by the Municipality of Varna in the field of science and higher education, field "Technical Sciences" for excellence in the field of biomedical engineering, Varna, 2017.
- First place in the competition of the "Marie Skłodowska-Curie Actions-MSCA" 2017 in the category "Contribution to a better society", Malta, 2017.
- Appreciation for overall contribution to the development of the engineering profession as Chairman of the Varna Section of IEEE Bulgaria, IEEE Society ED/SSC Chapter Chair, Varna, Bulgaria.

2. Research activities

The presented list of the scientific works of Assoc. Prof. Eng. Kristina Bliznakova under reviewing for this competition includes: publications and reports published in scientific journals, referenced and indexed in world-famous databases of scientific information – 28; publications and reports published in non-refereed journals with scientific review or published in edited collective volumes – 10; full-text publications in scientific journals and collections beyond the minimum scientific and technical requirements for holding the academic position of "Professor" – 5 and published chapter of a collective monograph. The citations reflecting the scientific activity of the applicant in scientific journals, referenced and indexed in world-famous databases with scientific information are 17, and outside the minimum requirements – 5.

The scientific works of Assoc. Prof. Kristina Stanimirova Bliznakova are published in:

- Authoritative and reviewable scientific journals with impact factor – *Physica Medica*, *Medical Physics*, *Physics in Medicine and Biology*, *Journal of X-Ray Science and Technology*, *Journal of Physics: Conference Series*, *Polish Journal of Management Studies*, *TEM Journal*.
- International conference: *European Medical and Biological Engineering Conference*, *h E-Health and Bioengineering Conference EHB*, *Mediterranean Conference on Medical and Biological Engineering and Computing*, *Scientific Conference Electronics*.
- Other scientific works are in scientific journals, published in renowned Bulgarian editions and edited collective volumes - *Scripta Scientifica Medica*, *Medicine and Dental Medicine*.

3. Main contributions to scientific works:

The contributions of the scientific works of Assoc. Prof. Kristina Stanimirova Bliznakova can be grouped into four main thematic areas as follows:

- methods for computer modeling of mammary gland, including new algorithms for tumor modeling and materials research, including 3D printing materials to create physical mammary phantoms for X-ray applications.
- methods for creating physical models (phantoms) of thrush and tumor formations, as well as for the study of materials, including materials for 3D printing to create these models for X-ray studies.
- Innovative models, methods and techniques for screening and diagnostics of mammary gland, lung, including new software platforms supporting the evaluation of the proposed methods.
- software applications and methods for training and research in medicine.

The scientific production of the candidate is mainly devoted to the creation of methods for computer and physical modeling of mammary gland and tumor formations, supporting screening and diagnosis. Results of scientific and applied value have been obtained.

4. Educational and teaching activities of the applicant

Assoc. Prof. Kristina Stanimirova Bliznakova has a total of over 6 years of pedagogical experience, of which over 3 years she is an associate professor at the Medical University - Varna. Assoc. Prof. Bliznakova has over 4 years of research experience and teaching experience of over 6 years, and has one textbook and two teaching aids. She has successfully managed 21 graduates in the Bachelor's Degree and the Master's Degree.

The high professional qualification of the applicant and the scientific interests in the field of biomedical technology and technologies, programming and development of software applications determine the disciplines taught by the applicant in the educational and qualification degrees of Professional Bachelor, Bachelor's Degree and Master's Degree of the Faculty of Public Health, the Faculty of Pharmacy and the specialties of the Medical College of Varna, as its average workload over the last three academic years – 2020/21, 2021/22 and 2022/23 meets the norm of 180 hours. In the learning process, she manages to inspire students who respect her and show an increased interest in the disciplines she teaches.

She is a member of examination committees for specialized training in "Acquiring competence to work with sources of ionizing radiation", Medical University - Varna, 2021, 2022, 2023. She is a chairman of the State Examination Commission for the defense of theses for the specialty "Information Technologies in Health and Health Care" for the academic year 2022/23.

5. Public and expert activities

Assoc. Prof. Eng. Kristina Bliznakova is a member of a number of scientific and professional organizations: member of the IEEE, Engineering in Medicine and Biology Society; member of IFMBE – International Federation of Medical and Biological Engineering; EFOMP – European Federation of Medical Physics Organizations; Bulgarian Association of MSCA; Bulgarian Society of Biomedical Physics and Engineering – BSBPE; MATLAB Access; TASK234 of the AAPM working group on virtual tools for evaluation of new 3D/4D breast imaging systems, member of NTS-Varna.

Assoc. Prof. Eng. Kristina Bliznakova is an expert at the European Network for Training and Education of Medical Physics Experts and an expert evaluator at the European Commission and the National Science Fund.

Conclusion


The presented scientific works, their significance, the scientific and applied contributions of Assoc. Prof. Eng. Kristina Stanimirova Bliznakova, PhD meet the qualitative and quantitative criteria for holding the academic position "professor" required by the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations on Academic Staff Development of MU-Varna.

In view of this and my personal impressions, I strongly support Assoc. Ing. Kristina Stanimirova Bliznakova, PhD to hold the academic position of Professor in the specialty "Biomedical Engineering and Technologies" (Bulgarian-language training), professional field 5.2. Electrical Engineering, Electronics and Automation for the needs of the Department of Medical Equipment, Electronic and Information Technologies in Healthcare, Faculty of Public Health, Medical University - Varna.

Varna

20.04.2023

Member of the Academic Selection Committee:


(Assoc. Prof. Eng. Marinela Yordanova, PhD)