НАЦИОНАЛЕН ЦЕНТЪР ПО ОБЩЕСТВЕНО ЗДРАВЕ И АНАЛИЗИ
Изх. №:..... 20 .....
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STATEMENT

by Assoc. Prof. Katya Koycheva Vangelova, PhD

on a competition for the academic position of "Associate Professor", announced in the State Gazette No. 95 of 07.11.2025

for the needs of the Department "Physical Factors", Directorate "Analytical and Laboratory Activities" at the National Center for Public Health and Analyses
Field of higher education 7. "Healthcare and Sports", professional direction 7.1 "Medicine", specialty "Hygiene"

Within the established deadline, one candidate, Tsvetelina Plamakova Shalamanova, PhD, Ass. Prof. in the Department "Physical Factors", Directorate "Analytical and Laboratory Activities" submitted documents and was admitted to participate in the competition.

I. Qualification and professional development

Tsvetelina Plamakova Shalamanova was born on 05.03.1977. In 2002 she graduated from Sofia University "St. Kliment Ohridski" with a master's degree in Engineering Physics and specialization in Medical and Sanitary Physics, and in 2006 with a degree in Business Administration at MGU. Since 2003 she has been a full-time doctoral student at the National Center for Public Health Protection (NCPHP) and in 2006 she was awarded the educational and scientific degree "Doctor" in Medicine, specialty "Hygiene" with diploma No. 31879/17.12.2007 for the dissertation: "Assessment of electromagnetic exposure during human irradiation from sources used in mobile communication". In 2007 Shalamanova obtained a specialty "Medical and Sanitary Physics" at the Medical University, Sofia.

During the period 2007-2009, Shalamanova worked as a chief expert in the Physical Factors Laboratory at the National Center for Public Health and Analysis (NCPHA), and from 2009 to the present as Ass. Prof. in the Physical Factors Department, Analytical and Laboratory Activities Directorate. She is the leader and participates in a number of national and international scientific projects and applied research tasks, related to the measurement and assessment of exposure to electromagnetic fields (EMF) and their impact on the health of the population and workers, carries expert and educational activities. Shalamanova participated in two international WHO projects: "Electromagnetic Radiation: Biological Effects of Constant and Time-Varying Electric and Magnetic Fields" and "Optical Radiation"; and the international project TransExpo (Childhood Leukemia and Residences near Indoor Electrical Transformer Rooms).

Shalamanova is a member of the Expert Advisory Council on Protection from Non-Ionizing Radiation: Electromagnetic Fields: Biological Effects of Constant and Time-Varying Electric and Magnetic Fields, participates in the preparation of strategic documents, including a report on the health of citizens in the Republic of Bulgaria. She is the Head of the Control Body "EXACT", an accredited body under BGS 17020. She participates in international interlaboratory comparisons for measuring electromagnetic fields. Shalamanova's expert activity is aimed at measuring and hygienic assessment of exposure to physical factors in the work and ambient environment (non-ionizing radiation, noise, vibrations, microclimate, and lighting).

Shalamanova is fluent in written and spoken English and Russian and uses Spanish.

The materials and documents submitted for the competition by Tsvetelina Shalamanova fully comply with the requirements for holding the academic position of "Associate Professor", specified in the Law on Development of the Academic Staff in the Republic Bulgaria and the Regulation on the Procedure and Conditions for Acquiring Scientific Degrees and Holding Academic Positions in the NCPHA.

II. Scientific and research activity

Tsvetelina Shalamanova, PhD has IF – 14.121 according to the submitted reference from the Central Medical Library; H index = 3. Shalamanova has 37 publications, of which 22 are in refereed scientific journals (Frontiers in Public Health, Electromagnetic Biology and Medicine, Physica Medica, European Journal of Public Health, etc.). In 10 publications Shalamanova is the first author, in 10 she is the second author, in 17 she is the third and subsequent author.

59 citations are noted on the publications of Ass. Prof. Shalamanova, of which 2 are Bulgarian citations, one in a foreign publication with scientific review and 56 from Scopus and Web of Science.

Shalamanova presented participation in a total of 39 scientific forums with 47 scientific communications.

The scientific interests of Ass. Prof. Shalamanova are aimed at measuring, modeling and hygienic assessment of exposure to electromagnetic fields (EMF) and their impact on the health of the population and workers.

The main scientific and scientific-applied contributions of the works of Ass. Prof. Shalamanova are in the following areas:

Measurement and assessment of exposure to EMF from the radio frequency range

Shalamanova has significant contribution in the field of measurement and development of scientifically based models for assessing radio frequency exposure taking into account the specific technical features of modern telecommunication systems. The result is more accurate assessment of population's exposure to sources of radio frequency radiation: base stations for mobile communication (2G–5G), radio and television transmitters, etc.; determination of hygienic protection zones (HPZ) around receiving and transmitting antennas; selection of measurement points in areas with "sensitive buildings and places" such as schools, hospitals and kindergartens; assessment of exposure during modernization of existing base stations with 5G antennas; etc. (Publications No. 4, 6, 10, 11, 15, 21, 23, 24, 25, 28, 29, 31, 35).

The candidate's contribution to the study of the biological effects of EMF, for example, activation of the autonomic nervous system after short-term exposure to low-power radiofrequency fields (Publications No. 32, 34), is important.

Measurement and assessment of exposure to ultra-low-frequency EMF

Shalamanova's contribution to research on ultra-low-frequency EMF generated by power facilities - substations, transformers and high-voltage overhead lines is very important. As a result of the data obtained, recommendations for engineering solutions have been derived, such as redistribution of cable routes, screening of facilities and optimization of the operating mode. I consider as highly significant contribution the data on spatial distribution of fields around 220 kV and 400 kV overhead lines, through a combination of on-site measurements and simulations of the field distribution, as well as the good comparability between the measured and calculated values, with the obtained differences being within the permissible uncertainty (Publications No. 1, 9, 18, 27, 36).

Assessment of EMF exposure in the work environment

A significant scientific contribution bring Shalamanova's data on the assessment of exposure to electromagnetic fields with different frequency characteristics, in various sectors - energy, telecommunications, medical practice and industry. Of extremely great importance are the data on measurements and assessment of exposure of workplaces with potentially high levels of EMF - devices for dielectric bonding of materials, induction heating devices, MRI equipment, physiotherapy devices and laser systems, some in new production and technological processes, as well as the development

and implementation of national guidelines for the protection of workers according to Directive 2013/35/EU (Publications No. 2,3,5,7,10,11,12,13,16,19,27,30).

Methodological contributions

Of great importance is the contribution of Shalamanova in the development and implementation of methods for measuring electromagnetic fields according to the recommendations of ICNIRP and the European standards IEC, to increase the accuracy of measurement and assessment of exposure, as well as uncertainty. (Publications No. 1, 2, 4, 6, 8, 13, 15, 18, 23, 24, 26, 27, 31). With the developed methods, Shalamanova participated in international interlaboratory comparisons of EMF measurements, where high comparability of the measured values with the set reference values was established. As a result of this experience, a national model for organizing interlaboratory comparisons in Bulgaria was developed (Publication No. 26), and also the procedures for measuring and assessing EMF are implemented by the control body "EXACT" of type C at the NCPHA.

Shalamanova is a co-author of publications dedicated to the training and professional realization of specialists in Medical and Sanitary Physics (Publications No. 14, 20), as well as methodological materials and manuals for the practical application of protection from non-ionizing radiation (Publication No. 37).

III. Educational and teaching activities

Ass. Prof. Tsvetelina Shalamanova participates in the training of postgraduate students in the medical specialty "Medical and Sanitary Physics". She is a leader and lecturer in thematic courses on methods and means for measurement and hygienic assessment of electromagnetic radiation, assessment and control of telecommunication sources, etc. The schedule corresponds to the specifics of the activities at the NCPHA.

Ass.Prof. Tsvetelina Shalamanova is a member of the Bulgarian Society of Biomedical Physics and Engineering, the European Association for Public Health and the Bulgarian Association for Public Health.

Conclusion

Ass. Prof. Tsvetelina Shalamanova is the only candidate in the competition for “Associate Professor” in the scientific specialty “Hygiene”. She presents herself with sufficient volume and high quality indicators and contributions in scientific publications with important hygienic assessment of exposure to EMF with different frequency characteristics and intensities. The contributions have been evaluated in our country and abroad, as evidenced by the significant number of citations. The contribution of Ass. Prof. Tsvetelina Shalamanova as head of the control body "EXACT" is significant. She is a member of the Expert Advisory Council on Protection from Non-Ionizing Radiation: Electromagnetic Fields: Biological Effects of Constant and Time-Variable Electric and Magnetic Fields, teaches postgraduates in Medical and Sanitary Physics and specialists in the field of medical physics.

Considering the qualities and importance of the scientific production of Tsvetelina Shalamanova and that she meets all the requirements stipulated in the Law on Development of the Academic Staff in Republic Bulgaria and the Regulations on the terms and procedure for acquiring scientific degrees and occupying academic positions at the NCPHA in terms of achieved scientific and scientific-applied results, I will vote positively and propose to the Honorable Members of the Scientific Jury to elect Tsvetelina Plamakova Shalamanova to academic position “Associate Professor” in the specialty "Hygiene" for the needs of the Department "Physical Factors", Directorate "Analytical and Laboratory Activities" at the National Center for Public Health and Analysis.

17.02.2026

Signature: Заличено на основание на чл. 5, §1,6 "В" от Регламент (ЕС) 2016/679

Assoc. Prof. Katya Vangelova, PhD