

STATEMENT

by Prof. Dr. MEng Eng. Plamen Marinov Tsvetkov
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Regarding: Subject: Evaluation of the candidate Associate Professor Dr. Rosen Ivanov Pasarelski, participant in a competition for the academic position of "professor" at NBU, in the professional field 5.3. "Communication and Computer Engineering", announced in the State Gazette, issue 85 / 08.10.2024.

I. Assessment of compliance with the minimum national requirements and the requirements of the New Bulgarian University

In my capacity as a member of the scientific jury (order No. Z-RK-84/18.12.2024 of the Rector of NBU), I have checked and established that the submitted documents for the competition for "professor", scientific papers, together with a self-assessment and evidentiary material from the sole candidate, Associate Professor Dr. Rosen Ivanov Pasarelski, comply with and fully fulfill the minimum national requirements of the ZRASRB and the requirements of the NBU National Academic Council regarding scientific and teaching activities in the field of higher education 5. Technical Sciences, professional field 5.3 Communication and Computer Engineering, for participation in a competition for the academic position of "professor" at NBU.

The candidate has successfully passed, at all levels, criteria and indicators, a long-term attestation procedure at NBU and fully meets the statutory minimum national requirements, as well as the internal requirements of New Bulgarian University.

The announced competition for the academic position of "professor" in the professional field 5.3 "Communication and Computer Engineering" has been published in accordance with the statutory procedure, by announcement in the State Gazette issue No. 85 / 08.10.2024.

In summary, I can state that the submitted scientific papers, documents and evidence fully comply with the minimum national requirements and the requirements of the New Bulgarian University for participation in a competition for the academic position of "professor" at NBU, in the professional field 5.3. Communication and Computer Engineering by the candidate Rosen Ivanov Pasarelski.

II. Research (creative) activity and results

1. Evaluation of the monographic work

The candidate in the current competition for professor has presented a monographic work "New 5G mobile cellular systems. Research on the interaction between 4G-LTE and 5G systems: architecture, network functions, interfaces and protocols", published by NBU, ISBN: 978-619-233-282-2. The monograph is a comprehensive and detailed study of the network architectures of 4G LTE and 5G systems, focusing on their functions, interactions, radio signaling and multiple access methods. The work impresses with its rich theoretical basis, mathematical analyses and comparative models, which provide a clear and in-depth picture of the technologies under consideration, contributing with valuable scientific and applied results.

The contributions in the monograph can be summarized as scientific and applied and are undoubtedly high, all of them being in the field of professional direction 5.3 "Communication and computer engineering".

2. Evaluation of the author's scientific and applied scientific contributions

The most important contributions and scientific results achieved by the author in the monographic work are:

- research and analysis of the main interfaces for connection and communication between various network components in a 4G - LTE network, of the functions and protocols of the control and user planes in a 4G - LTE network, of the channels for efficient and reliable communication

between the base station and user equipment in LTE networks, of the radio resource management, of the security architecture, of the radio access network and the core network in LTE.

- Mathematical analysis of orthogonal frequency division multiplexing - OFDM in LTE networks, mathematical analysis and preparation of models for an OFDM system in LTE, mathematical analysis and preparation of models for an OFDMA system in LTE.

- Research of network functions and objects in 5G systems and the interaction between 4G and 5G networks.

- Analysis of non-orthogonal multiple access (NOMA).

- Mathematical analyses with numerical results and models for optimizing radio signaling capabilities in 5G systems

- Comparative (SWOT) analysis between the multiple access methods NOMA and OFDMA.

I accept the noted contributions and give my positive assessment of the candidate's contributions, which are significant and characterized by high scientific and applied value.

3. Assessment of the contributions in the other attached publications made after the appointment of the academic position "associate professor"

The candidate Assoc. Prof. Dr. Rosen Pasarelski participates in the competition for professor with a submitted list of 29 scientific publications. Three of the publications are articles in publications that are referenced and indexed in the world-renowned scientific information database SCOPUS. These publications demonstrate high scientific value, having been printed in the most renowned database. The remaining publications are articles in peer-reviewed journals from the reference list of NACID or in edited collective volumes, and are indexed in the world-renowned databases EBSCO and CEOOL. The author Assoc. Prof. Rosen Pasarelski has accumulated a total of 365 points, which exceed the minimum legally required for this indicator of 200 points, consistent with the PPZRASRB and the requirements of the New Bulgarian University.

It is important to note that the attached publications do not repeat those already submitted for the acquisition of the ONS "doctor" and the academic position "associate professor" in PN 5.3. "Communication and Computer Engineering" of NBU by the candidate.

The scientific publications of Associate Professor Dr. Rosen Pasarelski highlight a number of studies, models and analyses of high scientific and applied scientific value. The review of the candidate's scientific works and publications submitted for the competition allows us to highly evaluate their scientific content and their usefulness for practice from the point of view of the achieved results.

As a summary, I note that the contributions in the applied publications are high and can be assessed as contributions of a scientific and applied scientific nature, all of which are in the field of professional direction 5.3 "Communication and Computer Engineering".

4. Citation by other authors

The citation of Assoc. Prof. Dr. Rosen Pasarelski's publications by other authors is significant and is based on authoritative and well-known sources such as Scopus, Web of Science, CEEOL, Google Scholar, EBSCO and others. As evidence regarding the references to the articles of Rosen Ivanov Pasarelski, an official reference from the NBU library is attached, from which 46 references to the candidate's publications are visible. Citations by other authors of the scientific production of Assoc. Prof. Pasarelski are available, both in the world-famous database of scientific information - Scopus, and in monographs, which is a certificate of well-done scientific work and high scientific value of the candidate's articles. By this indicator, Assoc. Prof. Rosen Pasarelski collects a total of 161 points and significantly exceeds the minimum standard for occupying the academic position of "professor" in PN 5.3. "Communication and Computer Engineering", in accordance with the ZRASRB and the requirements of NBU.

All this gives me reason to conclude that the publications of the candidate in the competition are significantly cited by other authors, which is evidence of high results and positive perception of the scientific research of Assoc. Prof. Dr. Rosen Pasarelski.

5. Evaluation of the results of participation in research and creative projects and application of the obtained results in practice

From the submitted documentation and evidence in the competition for the academic position of "Professor" in the professional field 5.3 "Communication and Computer Engineering", at NBU, a total of 11 participations in national and international scientific and educational projects stand out.

The candidate presents participation in an international scientific project, which can be highlighted:

- Project "Study of processes induced by irradiation and chemical reactions that occur on different temporal and spatial scales. Technological applications", funded by the scientific research fund under the European Program for Cooperation in the Field of Research and Technology COST, team member.

Assoc. Prof. Dr. Rosen Pasarelski has also led a number of educational projects, as a significant one can be noted - Project for field research, installation and configuration of computer systems and networks, leader.

The results obtained from the participation of Assoc. Prof. Dr. Rosen Pasarelski in scientific research projects are distinguished by publications indexed in the world-renowned scientific information database Scopus:

- Krasen K. Angelov, Panagiotis G. Kogias and Rosen I. Pasarelski, Application and Performance Analysis of LoRa End Devices for Monitoring of Indoor Lighting Systems, XXXII International Scientific Conference Electronics - ET2023, September 13 - 15, 2023, Sozopol, Bulgaria.
- Rosen Pasarelski, Krasen Angelov, Kristian Postagian, Stanimir Sadinov, Implementation and Analysis of a Customized Encryption Algorithm in 5G Networks for Educational Purposes, 2023 4th International Conference on Communications, Information, Electronic and Energy Systems (CIEES), 23 – 25 November, 2023, Plovdiv, Bulgaria.

My overall assessment of the results of the candidate's participation in research and educational projects is high, as I firmly believe that the results obtained can be applied in practice.

III. Learning and teaching activity

1. Auditory and non-auditory employment, work in the electronic training module "MOODLE - NBU", provision of student practices and internships, work with students and doctoral students.

Associate Professor Dr. Rosen Pasarelski is a long-time lecturer at NBU, having gone through academic development from an assistant in "Radio Communications" to an associate professor in professional field 5.3. "Communication and Computer Engineering". He leads numerous courses for bachelors, masters and doctoral students in various disciplines related to computer and telecommunications systems, mobile cellular systems, data centers, wireless data transmission networks and others, and also provides a significant number of practices and internships for students. As a very active user of the electronic learning module MOODLE -NBU, Associate Professor Pasarelski develops author resources, electronic assignments, online tests, surveys, forums, chats and virtual classrooms that increase the quality of education in telecommunications and computer technologies.

With an excellent average rating from students (4.69 out of 5.00), his teaching activity is distinguished by professionalism, academicity and high satisfaction.

In conclusion, my assessment is high regarding the academic and teaching activities of the candidate in the professor competition.

IV. Administrative and public activity

1. Participation in collective management bodies of the NBU

Assoc. Prof. Dr. Rosen Pasarelski actively participates in the work of various collective management bodies of NBU. He is a long-standing member of the faculty councils of the Bachelor's Faculty and the Faculty of Distance, Electronic and Advanced Education of NBU. Since 2003, he has been a member of the Council of the Department of Telecommunications and regularly participates in its meetings. He has successively held administrative positions - "Director" of the Bachelor's Program "Telecommunications" and "Director" of the Program Council of the Department of

Telecommunications. Since 01.07.2024, he has held the managerial position of Head of the Department of Telecommunications.

The participation of Assoc. Prof. Dr. Rosen Pasarelski in the collective governing bodies of NBU is evidence of his commitment to institutional development and the academic community. His active participation in these bodies implies an ability for strategic thinking, the ability to work in a team and a contribution to making key decisions related to the management of the educational process, scientific research and organizational activities. His professionalism, combined with many years of experience in the academic environment, contributes to the effective functioning and development of the management structures of the University, which gives me reason to evaluate these activities of Assoc. Prof. Dr. Rosen Pasarelski highly and positively.

V. Personal impressions of the candidate (if any)

I personally know Associate Professor Dr. Rosen Pasarelski from our many years of joint educational, teaching and administrative activities at the Department of Telecommunications of NBU. He has been part of the department since 1998 and to date his entire work experience has been spent at NBU. His professional path has gradually passed through the positions of "secretary" of the department, assistant in radio communications at the bachelor's and master's programs "Telecommunications", "chief assistant" and "associate professor" in PN 5.3. "Communication and computer technology". Associate Professor Dr. Rosen Pasarelski is extremely actively involved in the development of the Department of Telecommunications and has made a significant contribution. He puts in a lot of effort and is actively involved in numerous accreditations of "Telecommunications" programs at NBU, thereby contributing to the high external assessments by the National Evaluation and Accreditation Agency (NEAA) of PN 5.3. Communication and computer technology of NBU. His contribution to the preparation of the accreditation documents before the NEAA in 2023 is significant.

As a person, Rosen Pasarelski is very active, balanced and non-conflict, an exceptional professional in his work, with high management skills, responsible, capable of making decisions and working in a team, dedicated and loyal.

VI. Opinions, recommendations and notes on the activity and achievements of the candidate

I would make two recommendations for the candidate's future professional activity:

- I recommend that the future research activity be continued in the same scientific field and aimed at publishing articles mainly in renowned national and international specialized journals in English, indexed in world-famous databases with scientific information, with the aim of international accessibility and high citation.
- I recommend participation and presentation of reports at prestigious international scientific forums in order to widely acquaint the foreign scientific community and business with the results of the candidate's research, as well as to establish useful contacts and collaborations with foreign scientists and teachers in scientific and educational projects.

CONCLUSION

With the findings I made and the evaluations given in the standpoint, I can claim that the candidate Rosen Ivanov Pasarelski fully meets the mandatory legal requirements for the occupation of the academic position "professor" according to the ZRASRB and the internal regulations of the NBU.

IN CONCLUSION, I HIGHLY APPRECIATE THE CANDIDATE'S SCIENTIFIC AND ACADEMIC ACTIVITY AND I PROPOSE TO THE DISTINGUISHED MEMBERS OF THE SCIENTIFIC JURY TO SUPPORT THE CANDIDATE OF ASSOCIATE PROFESSOR DR. ROSEN IVANOV PASARELSKI FOR THE ACADEMIC POSITION "PROFESSOR" IN PROFESSIONAL DIRECTION 5.3. "COMMUNICATION AND COMPUTER TECHNOLOGY", AT THE NEW BULGARIAN UNIVERSITY, DEPARTMENT OF "TELECOMMUNICATIONS" AND TO BE ELECTED BY THE ACADEMIC COUNCIL.

Date:10.01.2025

Signature: _____
/Prof. Dr. MEng. Plamen Marinov Tsvetkov/