

OPINION

for competition for the academic position "**Associate Professor**" in the professional field 5.2 "Electrical engineering, electronics and automation", announced in SG No. 90 / 11.11.2022 for the needs of IICT-BAS, section "Intelligent Systems"

Candidate: Senior Assistant Tatyana Radeva Radeva – Stoilova PhD

By Assoc. Prof. Valentin Mateev, PhD, TU-Sofia,

approved as a scientific jury member according to order 10/10.1.2023 of IICT-BAS

1. A general description of the candidate's research, applied research and pedagogical activities.

The only candidate is Tatyana Radeva Radeva – Stoilova, Ph.D., who is currently a Senior Assistant in the department of "Electroenergetics", faculty of "Electrical Engineering" of TU-Sofia. Dr. Tatyana Radeva - Stoilova successively completed a two-level higher engineering education, starting with "Bachelor" in Electrical Engineering at TU - Sofia (2002) and "Master" in Electrical Engineering at TU - Sofia (2005), and a second master's degree in "Public Administration" at TU - Sofia (2005). She actively worked as a design engineer in the period 2005 - 2013. The candidate was appointed as an assistant in the Department of "Electroenergetics" at TU-Sofia in 2013, after in 2016 she was appointed as a Senior Assistant in the same department. She successfully obtained a PhD degree in 2015 on the problem of "Research of electrodynamic forces in the bus system of a substation". She has been a lecturer on more than 16 courses, and thesis supervisor of 17 graduate students. Author and co-author of over 25 scientific publications, including 2 engineering design manuals. Dr. Tatyana Radeva - Stoilova have participated as a team member of two scientific research projects headed by Prof. Dr. I. Yachev.

Dr. Tatyana Radeva – Stoilova is included in the official register of Chamber of Engineers in The Investment Design (KIIP) with acquired full designer's license for Electrical part (since 2010) and full designer's license for Fire Safety - Electrical part (since 2013). Additional certificates in Energy Efficiency Survey and Building Certification and Energy Management and Energy Efficiency in Industrial Enterprises, including SMEs are acquired. The candidate performs electrical engineering design of numerous investment projects. She participates in energy efficiency survey projects, as well as in those under the European operational programs.

2. General description of the presented materials.

The results of the research activity of Dr. Tatyana Radeva Radeva - Stoilova, are presented in a monographic work, two manuals and twenty-one scientific publications, with 14 citations noticed so far. In the current competition, in accordance with the Regulations for the specific conditions for acquiring scientific degrees and for holding academic positions at the Institute of Information and Communication Technologies - BAS, the candidate participates with publications that do not repeat those presented for obtaining the PhD degree and these for the academic position Senior Assistant.

The candidate's points by indicators are: Indicator A PhD thesis - 50 points; Indicator B3 "Habilitation thesis - monography" - 100 points. Sum of Г7 and Г8 indicators - 301.2 points, with a minimum requirement of 220 points for IICT-BAS (200 points National Regulations); Sum of indicators Д12 and Д14 – 116 points, with a minimum requirement of 60 points for IICT-BAN (50 points for National

Regulations); Sum of indicators E19 and E14 – 66.6 points, with a minimum requirement of 20 points for IICT-BAS.

From the review, it is clear that the minimum requirements for academic position of "Associate Professor" of the National regulations for Academic Staff Development Act, as well as the Regulations for the specific conditions for acquiring scientific degrees and for occupying academic positions at IICT-BAS, are covered.

The applicant's research work, according to the materials provided, is entirely in the field of the current competition. The candidate's contributions have a scientific-applied and applied nature and I assume that they can be summarized as:

1. Development of a mathematical model for an optimal load schedule for the operation of a micro grid for the control of external network supplies.
2. Development of model solutions for optimize energy consumption of power networks.
3. Development of a numerical example of a mathematical optimization model of mixed-integer linear programming.
4. Investigation of the thermal effect caused by a short circuit current on busbars with a rectangular cross-section.
5. Development of an integrated energy efficiency assessment system, consisting of a building, systems for controlling the microclimate, inhabitants and ways of living and climate impacts of the environment.
6. A practical problem of photovoltaic energy system design for a public educational building was solved.
7. Specific energy-saving measures are proposed to increase the energy efficiency of street lighting systems.

3. Critical remarks and recommendations.

I have no critical remarks. As a recommendation, I believe that a better systematization of the candidate's work results would show additional strengths and new opportunities for development, especially in the field of renewable energy systems.

CONCLUSION

The analysis of the materials provided shows that the candidate meets and in some indicators exceeds the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the specific conditions for acquiring scientific degrees and for occupying academic positions at the Institute of Information and Communication Technologies at the BAS. Based on the acquaintance with the presented scientific works, their importance, the scientific and applied contributions contained in them, I find it reasonable to propose Dr. Tatyana Radeva Radeva - Stoilova to take the academic position of "Associate Professor" in professional direction 5.2. "Electrical engineering, electronics and automation", in IICT-BAN, section "Intelligent systems".

2.03.2023

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