

STANDPOINT

For competition for taking the academic position "Associate Professor" in a professional field 5.4. "Energetics" under the specialty "Electric Power Plants and Substations", at the Department of Electric Power Engineering at the Faculty of Electrical Engineering of the Technical University-Varna, announced in State Gazette, issue 105 / 18.12.2018.

Candidate Nikolay Deyanov Nikolayev, Ch. Assistant Prof. PhD Eng.

Member of a scientific jury:

Marinela Yordanova Yordanova, Assoc. Prof. PhD Eng.

1. *A general characteristic of the applicant's research and development activities*

The candidate in the competition is Ch. Assistant Prof. Nikolay Nikolaev, PhD, who graduated the Bachelor's Degree in „Electric Power Engineering and Electrical Equipment“ (Electric Power Module) in 2009 and Master's Degree in „Electric Power Engineering“ in 2011. During the period from 2011 to 2013 he is a part-time assistant in the Department of Electric Power Engineering. Since 2013, he has been employed as an assistant professor in the same department, and since July 2016 he has been elected as Chief Assistant Professor. PhD Eng. Nikolay Nikolayev earned Ph.D. in 02.06.06 "Electrical networks and systems" from Technical University - Varna on "Modeling the influence of generators using renewable energy sources on the power system regimes" (earned in 2014 in TU –Varna). The dissertation has 9 publications, two of which are referenced in Scopus.

Candidate Ch. Assist. Prof. Dr. Nikolay Nikolaev has presented materials - scientific publications, reference for quotations, participation in scientific projects and international mobility, lectures on disciplines and participation in the modernization of the department's laboratories, which fully meets the minimum national requirements for academic position "Associate Professor" in the area of higher education 5. Technical sciences, professional field 5.4. Energy. For the groups of indicators, the candidate demonstrates collected points as follows:

- Group A (PhD thesis) - 50 points of at least 50 points;
- Group B (B.4 scientific publications (10) in journals that are referenced and indexed in world-renowned databases with scientific information) - 160 points of at least 100 points;
- Group C (C.7 - 4 scientific publications in journals which are referenced and indexed in world-renowned databases with scientific information; C.8 - 9 scientific publications in nonindexed journals with peer-review or in edited collective volumes) - 220 points from at least 200 points;
- Group D (D.1 - 6 references in scientific publications, referenced and indexed in world-renowned databases) - 60 points of at least 50 points;
- Group G (Lecture of TU-Varna lectures for the last three years) - 66 points (of at least 30 points) in the courses "Electric part of power plants and substations", "Technology of electricity generation" and "Electric Power System Stability" in the Bachelor's degree program.

2. *Evaluation of the applicant's pedagogical training and activities*

Chief Assist. Prof. Nikolay Nikolaev has 8 years of teaching experience at TU-Varna. In addition to reading lectures on the disciplines mentioned above, he leads laboratory exercises in the courses "Electric part of power plants and substations", "High Voltage Equipment", „Electric Power Plants and Electric Networks ", " Relay Protection and Automation of EES" for Bachelor and Master. He has developed 5 curricula for the specialty "Electric power engineering" for Bachelor's degree. He has prepared 5 teaching materials (lectures notes) on the subjects of „Electric Power Engineering“, „Electrical

and Renewable Energy“, „Heat and Power Systems and Electric Power Systems“. He has developed software for educational purposes for specialties "Electric Power Engineering" and "Electric Power Systems". He has supervised (27) and he has reviewed (25) diploma theses. He has participated in the modernization of the Laboratories "Electric Power Plants and Substations" and "Electrical Networks and Systems", he was mainly involved in the design and construction of a new Laboratory "Modern Power Systems".

The pedagogical activity of the candidate is directly related to the professional direction of the competition and can be assessed as excellent.

3. *Key scientific and applied science contributions.* The contributions are personal activities of the candidate and they are related to the formulation of new scientific problems; proving new means of significant new problems; creating methods; obtaining evidence in the field of power stations and substations; smart grids; power flows, transients and stability of the power system:

- The scientific contributions are related to the development of new algorithms, new models, new approaches to the study of processes in the Electric Power System (EPS);
- Scientifically applied contributions are related to the implementation of methods; developing an innovative concept and realizing a model imitating photovoltaic modules; mathematical models and a computer program for the analysis of electromagnetic transients have been developed, new data and facts are obtained; original experimental complex and virtual environment were created in MATLAB® and others.
- The Applied and Methodological Contributions are related to the introduction in the educational process of new software products, the design and construction of an electronic control, signaling and measurement system (SCADA), the development of a conceptual and technical project for a new laboratory to study the impact of RES-based plants on transitional processes and sustainability of the EPS, etc.

Quotations - 6 citations of two scientific publications in representative publications.

Deployments - Software for optimal tuning of power system stabilizers.

4. *Significance of contributions to science and practice*

The applicant's contributions from the scientific works are in the field of power stations and substations; smart grids; transitional regimes, and the sustainability of the power system. They meet the quantitative indicators of the criteria for occupying the academic position "Associate Professor". The applicant has a publishing activity with recognition in Bulgaria and abroad, as the number of citations evidences it. He has participated in two scientific projects funded by Ministry of Education and Science and internal of TU-Varna, as well as executing tasks under contracts with outsourcers for TU-Varna.

5. *Critical remarks and recommendations*

I have no critical remarks and recommendations for the candidate's scientific work.

CONCLUSION

My overall assessment of the candidate's scientific work is excellent. The candidate has scientific, applied and applied contributions.

Based on the presented scientific papers, their significance, the scientific, applied and applied contributions contained therein, I found that it is reasonable to propose Ch. Assist. Prof. Dr. Nikolay Nikolaev to take the academic position "Doctor" in professional field 5.4. "Energy" under the specialty "Electrical Power Plants and Substations" at the Department of Electric Power Engineering at the Faculty of Electrical Engineering of the Technical University of Varna.

18.03.2019

Member of a scientific jury:

Marinela Yordanova, Assoc. Prof. PhD Eng.