

OPINION

by Assoc. Prof. Dr Eng. Georgi Tsvetanov Angelov
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regarding the competition for the academic post of 'ASSOCIATE PROFESSOR'
in professional field 5.2. 'Electrical Engineering, Electronics and Automation',
scientific specialization 'Elements and Devices of Automation and Computing Technology',
announced in the State Gazette No. 51 of 5 June 2026 for the needs of the 'SITRM' Section at the
Institute of Robotics – BAS

Candidate: Senior Assistant Professor Dr Eng. Svetoslav Atanasov Noykov

1. General profile of the candidate and the submitted materials

Chief Assistant Professor Dr Eng. Svetoslav Atanasov Noykov is participating in the competition. The set of documents submitted includes materials on education and academic qualifications, a curriculum vitae, a list, abstracts and full texts of scientific publications, statements regarding the minimum national requirements and the candidate's scientific and applied scientific contributions, a list of citations, as well as details of accepted patent applications and granted patents for inventions. The documents also contain all the required declarations. In my opinion, the materials are entirely sufficient for an objective assessment of the candidate's scientific, applied scientific and engineering work.

Dr Noykov, Eng., is an electromechanical engineer, holds a Master's degree in 'Automatic Control Systems', and holds a doctoral degree in the scientific speciality 'Elements and Devices of Automation and Computing Technology', awarded on the basis of a doctoral thesis entitled 'Hardware and Software Tools for Processing Sensor Information in Environmental Research Using a Class of Mobile Robots'. His professional development combines many years of research work at institutes of the Bulgarian Academy of Sciences (BAS) with practical engineering work in the field of electronic and control and measurement equipment. He is currently a chief assistant at the Institute of Robotics – BAS.

His research interests have consistently focused on sensor devices and systems, magnetometry, interface electronics, measurement methods, automation and mobile robotics. This thematic development is consistent and directly relevant to the announced competition.

2. Fulfilment of the minimum national requirements

According to the report submitted, the candidate meets and exceeds the minimum national requirements for the academic post of 'associate professor' in professional field 5.2, 'Electrical Engineering, Electronics and Automation'. The results for the main groups of indicators are as follows:

Group	Content	Minimum	Candidate's marks
A	Thesis for the academic degree of 'Doctor'	50	50
B	Habilitation thesis based on publications in peer-reviewed and indexed journals	100	169
G	Scientific publications outside the habilitation thesis	200	259.7

D	Citations in peer-reviewed and indexed publications	50	220
E	Accepted applications/ granted patents for inventions	-	320

Particularly impressive is the fact that the requirements for Group D, relating to citations, have been significantly exceeded, as well as the presence of eight patents for inventions under indicator E. This is evidence not only of publication activity, but also of the recognition and practical applicability of some of the scientific results.

3. Characterization of scientific and applied scientific output

The habilitation section comprises ten publications in journals that are peer-reviewed and indexed in world-renowned scientific databases. These include publications in "Sensors and Actuators A: Physical" and "Electronics Letters", as well as research presented within the framework of EUROSENSORS.

The publications presented under Group G broaden the thematic scope and include both research in the field of magnetic sensors and measurement systems, as well as results relating to mobile robotics, local control, reflexive behaviour, environmental mapping and the use of ultrasonic rangefinders. This combination demonstrates a strong link between sensor technology, measurement technology, automation and robotics.

The list of citations contains 22 citations, totalling 220 points under Group D. The presence of citations in publications indexed in Web of Science and Scopus indicates that the candidate's results are visible and utilized by other researchers in the field of sensors and magnetic measurements.

4. Major scientific and applied scientific contributions

I accept the contributions presented by the candidate as corresponding to the content of the scientific works. The habilitation report clearly highlights a consistent line of development of new design and circuit solutions for 2D and 3D Hall magnetometers.

As significant scientific and applied scientific results, I would highlight the following areas: a method has been proposed for the sequential measurement of magnetic field components using the same sensor area, and a 3D magnetometer based on the scanning principle has been developed; a class of 2D magnetometers has been created, in which the magnitude and direction of the magnetic vector are measured in the sensor plane; 3D magnetometers have been developed with sequential measurement of the three field components, along with interface electronics for signal control and processing; a multi-sensor for temperature and the three orthogonal components of the magnetic field has been developed; original solutions have been proposed for 2D magnetometers with coupled Hall elements and for compact multi-component sensor structures with offset compensation.

I particularly appreciate the engineering sophistication of these developments. The contributions are not limited to conceptual models, but include specific sensor structures, circuit solutions, switching algorithms, methods for offset and noise compensation, and interface electronic units. This is an important characteristic for the scientific discipline of the competition, where the applicability and feasibility of the developed components and devices are of significant importance.

Contributions beyond the habilitation report complement the candidate's academic profile with research in mobile robotics. A system for the local control of a three-wheeled mobile robot

with differential drive, a sensor subsystem featuring a scanning ultrasonic rangefinder and tactile sensors, as well as algorithms for movement and exploration of environments containing unknown objects, are presented. These results demonstrate the ability to integrate sensor technology, control, propulsion and information processing into complete robotic systems.

5. Significance of the contributions to science and practice

The scientific significance of the presented results lies in the development of methods and devices for multi-component magnetic measurements, the improvement of spatial resolution, the reduction of offset and noise, and the simplification of sensor and interface structures. I believe that these results have applications in measurement technology, automation, robotics and mechatronics, including in non-contact measurements, orientation and displacement determination, sensor subsystems and diagnostic devices. The publications, citations and patents outline a consistent and recognizable scientific and applied profile.

6. Critical comments and recommendations

I have no significant critical comments on the submitted materials. As a recommendation for future development, I would encourage the candidate to continue actively publishing new results in international journals with a high impact factor and quartile, as well as to expand the application of the developed sensor and magnetometric solutions in modern robotic and autonomous systems. This would further enhance the international visibility and practical impact of his research.

7. Conclusion

On the basis of the materials submitted and the assessment carried out, I consider that Senior Assistant Professor Dr Eng. Svetoslav Atanasov Noykov possesses the necessary academic qualifications, publication record, citation count, scientific and applied results, and engineering competence to hold the academic post of 'Associate Professor'. His scientific works fall within the thematic scope of the competition, and the results and contributions presented are relevant to professional field 5.2. 'Electrical Engineering, Electronics and Automation'. The candidate meets the minimum national requirements and exceeds them in the key indicator groups. The significant number of citations and eight patents provide further evidence of the scientific and applied value of his work.

On this basis, I give a POSITIVE ASSESSMENT and propose that the members of the academic jury support the appointment of Senior Assistant Professor Dr Eng. Svetoslav Atanasov Noykov to the academic post of 'Associate Professor' in professional field 5.2. 'Electrical Engineering, Electronics and Automation', scientific specialization 'Elements and Devices of Automation and Computing Technology', for the needs of the 'SITRM' section at the Institute of Robotics - BAS.

Opinion prepared by:

Associate Professor Dr Eng. Georgi Tsvetanov Angelov