

**POSITION**

by competition for an academic position "Associate Professor" in  
Professional field: **5.2 Electrical engineering, electronics and automation,**  
Scientific specialty: **Elements and devices of automation and computing,**  
announced in SG 51/5.06.2026,  
with candidate: **Svetoslav Atanasov Noykov, Ph.D., Assistant Professor**

Member of the scientific jury: **Iliana Yordanova Marinova, D.Sc., Professor**

**1. General characteristics of the candidate's scientific and research activities**

The only candidate in the competition for the academic position (AP) "Associate Professor", Dr. Svetoslav Noykov, is an assistant professor in SMTRM section of the Institute of Robotics-BAS, for the needs of which competition has been announced.

For participation in the competition for Associate Professor, ass. prof. Noykov presented a Diploma issued by the Higher Attestation Commission in 2004 for awarding the educational and scientific degree PhD, based on a defended dissertation on the topic "Hardware and software for processing sensory information in the study of the environment by a class of mobile robots". A list of 7 publications on the dissertation was also presented, as well as a declaration that these publications were not used for participation in this competition.

In the competition for AP Associate Professor, ass. prof. Noykov participated with a total of 37 publications, in addition to those presented in the dissertation, 22 citations in scientific publications, referenced and indexed in world-renowned databases of scientific information and a list of 8 issued patents for inventions. Five publications have an Impact Factor and rank in Q1, one publication is in Q4, 18 publications have an impact rank, 19 publications are referenced and indexed in world-renowned databases of scientific information. The papers for participation in the competition presented research on 2D and 3D vector magnetometers measuring more than one component of the magnetic field and/or angular displacements. The papers presented are entirely in the field of this competition.

Under indicator B4, 10 publications are presented, referenced and indexed in world-renowned databases with scientific information. These publications are thematically united as equivalent to a habilitation thesis on the topic: New constructive and circuit solutions in the field of two-dimensional and three-dimensional Hall vector magnetometers. These publications present the scientific research activity of ass. prof. Noykov in the field of sensor systems for complex magnetic measurements. Approaches have been developed and solutions have been proposed to achieve higher accuracy, resolution, measurement speed and better manufacturability of the developed magnetometric systems.

A total of 27 publications are presented under indicators from group Г, with indicator Г7 presenting 9 publications, referenced and indexed in world-renowned databases of scientific information, of which one has an impact factor and impact rank in Q1, and seven others have an impact rank. Indicator Г8 presents 18 publications in non-refereed journals with scientific review or in edited collective volumes.

According to indicator D12, 22 citations in scientific publications, referenced and indexed in world-renowned databases of scientific information, are presented, and at the time of preparing the opinion, 132 citations of the candidate's works are available in Scopus, which shows that the publications of ass. prof. Noykov are known to the international scientific community and his research in the field is highly appreciated.

No points are required for indicators from group E when taking the position of Associate Professor, but the candidate has submitted a list of 8 issued patents for inventions.

Attached to the candidate's documents are a Certificate for AP Professor, issued by the Institute of Robotics-BAS, a Certificate for Associate Professor, issued by the Higher Attestation Commission, a Certificate for participation in educational, expert and research activities, a Certificate for participation as a leader or team member in numerous international and national research projects, 4 diplomas for his inventive achievements and results in the field of sensors, robotics and mechatronics.

All this gives me reason to highly appreciate the scientific research and inventive activities of Ass. Prof. Noykov.

The comparison of the indicators of the candidate's submitted materials with the minimum requirements for occupying the position of Associate Professor shows that all requirements are significantly exceeded.

## **2. Main scientific and scientific-applied contributions**

The main contributions in the works of Ass. Prof. Noykov are scientific and scientific applied and are in the category of creating new constructive and circuit solutions in the field of sensors, robotics and mechatronics.

The main scientific and scientific-applied contributions in the candidate's works can be summarized as follows:

- A 3D scanning magnetometer, a class of 2D scanning magnetometers, a 3D magnetometer using the principle of sequential measurement of the three components of the magnetic field vector, containing a 6-contact sensor element have been developed based on the Hall effect. A multisensor for temperature and sequential measurement of the three orthogonal components of the magnetic field, a 2D magnetometer for simultaneous measurement of two of the components of the magnetic field, a 2D magnetometer with a 4-contact microsensor for measuring the magnetic field have been created.
- A system for local control of a three-wheeled mobile robot with differential drive has been developed for the laboratory mobile robot LAMOR. An algorithm for controlling the movement of the mobile robot when exploring environments involving unknown objects has been developed. Modules of an experimental system for exploring magnetic materials have been developed. A circuit solution for power supply and primary signal conversion of a variant of a three-contact Hall sensor with a parallel axis of magnetic susceptibility has been proposed. An interface electronic circuit has been developed for Hall effect-based microsensors with a ring-shaped structure.

The publications of Ass. Prof. Noykov are of a high scientific level, significantly exceed the requirements in terms of volume, and their presentation at various forums, as well as citations, make them sufficiently popular at the national and international level.

## **3. Significance of contributions to science and practice**

The relevance of research in the field of sensorics is undeniable and makes the research work of ass. prof. Noykov, as well as the scientific and scientific contributions achieved in his works, significant for science, education, and industry.

All these define ass. prof. Noykov as a highly qualified researcher with excellent theoretical and practical knowledge, as well as the necessary experience in the field of the competition.

## **4. Critical notes and recommendations**

I have no critical comments on the works of ass. prof. Noykov, and I recommend that he continue to work in this important scientific field to achieve new significant results.

## **CONCLUSION**

Based on my acquaintance with the presented scientific works, their significance, the scientific and scientific-applied contributions contained therein, as well as for most of required indicators the candidate significantly exceeds the minimum requirements for taking the AP Associate Professor in IR-BAS, I find it reasonable to propose

**Ass. Prof. Dr. Svetoslav Atanasov Noykov**

to take the academic position Associate Professor in professional field 5.2 Electrical Engineering, Electronics and Automation in the specialty Elements and Devices of Automation and Computing for the needs of the SMTRM section of the Institute of Robotics - BAS.

1.10.2026

Scientific Jury Member:

/Prof