

STATEMENT

For the competition for occupation of the academic position "associate professor" professional field 5.2. "Electrical Engineering, Electronics and Automation", specialty "Robots and manipulators", declared in the State Gazette №. 41 of 21.05.2019 for the needs of the Department Embedded Intelligent Technologies of IICT-BAS, candidate: Dr. Nayden Nedkov Chivarov
Member of the Scientific Jury: Prof. Dr. Kostadin Grosev Kostadinov
Order of the Director of IICT-BAS No. 183 / 19.07.2019.

1. General and biographical data

The only candidate in the competition is Dr. Nayden Nedkov Shivarov. He was born on October 27, 1973 in Sofia. He graduated from the Forestry Technical University in Sofia in 1997 with a degree in Mechanization of Forestry. He defended his doctoral thesis in 2001 at the Vienna Technical University on the topic "Robot tool kit for modular mobile robots". From 2019 he was appointed as a engineer in the section "Embedded Intelligent Technologies" of IICT-BAS. From 2007 until now, Dr. Shivarov has co-authored 42 publications on the topic of the competition, of which 13 SCOPUS referenced and 9 of the publications were with SJR, 7 citations were given. He has participated in 3 research projects, has managed 1. He owns Useful Model No. 2056: Autonomous Personal Service Mobile Robot.

2. General description of the presented materials

In the competition for "Associate Professor" Dr. Nayden Nedkov Shivarov gives 10 scientific works of monographic character in refereed and indexed editions. The work is in the field of "Service robots for assisting the elderly and disabled people and graphical user interfaces for their management".

A list of 32 other publications has also been provided. Of these, 3 are articles in refereed and indexed editions.

Nine of the publications featuring Dr. Shivarov are with SJR.

A list of 7 citations to a total of 5 refereed and indexed articles is given.

A list of 3 projects is given, in 1 of which Dr. Shivarov is the leader.

A useful model № 2056: N. Shivarov., Autonomous Personal Service Mobile Robot is given.

I believe that the candidate participates in the competition for "associate professor" with sufficient number of jobs, fulfilling the requirements of the Law and the Regulations of IICT-BAS. The presented works are devoted to scientific and applied problems in the field of the announced competition.

3. A general characteristic of the applicant's research and scientific and applied activities

Articles and reports address the following groups of issues:

1. 10 monographic publications: Common Topic - Service Robots to Help Seniors and Disabled People and Graphical User Interfaces to Manage Them.
2. 32 articles outside the monographic work are thematically similarly divided into the following major scientific fields:

- Kinematics, dynamics and control of robots
- Multi-functional robotic systems for independent living
- Learning and mobile robots
- Sensor systems

4. Scientific-research and applied contributions of the applicant

I accept several groups of contributions with which the applicant participates in the "Associate Professor" competition.

A. Publications equivalent to monograph work:

1. Service-oriented robot ROBCO 18 for assisting the elderly and disabled - № 3, 4;

2. Web-based user interface for managing robots to assist the elderly and disabled - No 2;
3. Tele-controlled service robot ROBKO 17 - № 1, 5;
4. Intelligent modular service mobile robot controlled via the Internet ROBKO 12 - № 6, 8;
5. Graphical user interface for managing a multifunction shadow robot for assisting the independent living of adults - № 7,9;
6. Characteristics of theoretical solutions of Mobile Assistance Technologies - № 10;

B. Publications beyond the equivalent of monograph work:

1. Intelligent Modular Service Mobile Robot for Assistance to Older Persons "ROBKO 11" - № 28, 29;
2. Educational Anthropomorphic Robot ROBKO Phoenix - № 35, 37;
3. Mobile Mini Robot ROBKO Mobile - № 13, 42;
4. Modernization of Training Robot ROBKO Skara - № 33,41;

The contributions are mainly scientific - applied in nature. I appreciate the contributions as being in compliance with the requirements of the normative documents on this point.

5. Significance of contributions to science and practice

The developed, researched and prototyped service robots and graphical user interfaces for their management are important for the development and enrichment of the theory and practice of high-tech robotic systems for assisting the elderly and disabled. The multi-channel control created allows for easy interaction between humans and the "helper robot". From the publications it can be concluded that the contributions of Dr. Nayden Shivarov have received the necessary fame in the scientific community at home and abroad.

6. Critical remarks and recommendations

Critical remarks can be made regarding some gaps in the layout of several publications, as well as the layout of all material.

- Gaps in the bibliographic description of certain literary sources,
- The contributions declared are too fragmented, it is better to combine them.

Notwithstanding the minor notes and omissions, I believe that with the formulated decisions and contributions, the applicant is fully prepared for the academic position of Associate Professor.

CONCLUSION

The applicant meets the requirements of the Law and the Regulations. The quantitative indicators of the Regulations of IICT-BAS for the occupation of the academic position "Associate Professor" are covered. Therefore, I give my positive vote for the occupation of the academic position of "Associate Professor" by Dr. Nayden Nedkov Shivarov. This gives me reason to propose to the Honorable Scientific Jury to vote for the award of Dr. Nayden Nedkov Shivarov to the academic position of Associate Professor in the specialty "Robots and manipulators", professional field 5.2. Electrical engineering, electronics and automation.

19th August, 2019,
Sofia

Member of the Scientific Jury: ..
(Prof. Dr. Kostadin Kostadinov)

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