

## OPINION

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Concerning scientific works submitted for participation in competition for awarding the academic position of “Associate Professor” in the field of higher education – 5. Technical Sciences, professional field – 5.3. Communication and Computer Engineering, scientific specialty – “Communication Networks and Systems” (“Wireless Communications and Broadcasting”, “Security equipment”)

In the competition for „Associate professor“, announced in the State Gazette, issue 68/31.07.2020 and on the website of TU-Gabrovo for the needs of the Department of “Communication Equipment and Technologies” at the Faculty of Electrical Engineering and Electronics as a candidate participates **Ch. Assist. Prof. Krasen Kirov Angelov, PhD** – Technical University of Gabrovo.

### **1. An overview of the content and results of the submitted works**

Ch. Assist. Prof. Krasen Kirov Angelov, PhD, participated in the competition with:

- 42 publications;
- 3 handbooks (2 manuals for laboratory exercises and 1 textbook).

The publications can be classified as follows:

#### ❖ **By type:**

- 9 articles in journals;
- 33 papers;

#### ❖ **By relevance:**

Krasen Angelov, PhD is a co-author of an article in the journal with Impact Factor: Journal “Electronics and Electrical Engineering”, TECHNOLOGIJA Kaunas, Lithuania published in 2009 (Scopus, WoS, IF = 0.656).

#### ❖ **By state of publication:**

- 4 articles in foreign journals [№ B.4.1; B.4.2; B.4.10 and Г.7.3 in the submitted list of publications];
- 5 articles in Bulgarian journals [№ Г.8.11; Г.8.15; Г.8.20; Г.8.23 and Г.8.24 in the submitted list of publications];
- 7 papers in international scientific conferences abroad [№ Г.8.13; Г.8.21; Г.8.22; Г.8.26; Г.8.27; Г.8.28 and Г.8.29 in the submitted list of publications];
- 26 papers in international scientific conferences in Bulgaria [№ B.4.3; B.4.4; B.4.5; B.4.6; B.4.7; B.4.8; B.4.9; Г.7.1; Г.7.2; Г.8.1; Г.8.2; Г.8.3; Г.8.4; Г.8.5; Г.8.6; Г.8.7; Г.8.8; Г.8.9; Г.8.10; Г.8.12; Г.8.14; Г.8.16; Г.8.17; Г.8.18; Г.8.19 and Г.8.25 in the submitted list of publications];

#### ❖ **According to the language in which they are written:**

- 26 publications in English language [№ B.4.1; B.4.2; B.4.3; B.4.4; B.4.5; B.4.6; B.4.7; B.4.8; B.4.9; B.4.10; Г.7.1; Г.7.2; Г.7.3; Г.8.4; Г.8.6; Г.8.13; Г.8.18; Г.8.19; Г.8.20; Г.8.21; Г.8.22; Г.8.25; Г.8.26; Г.8.27; Г.8.28 and Г.8.29 in the submitted list of publications];
- 16 publications in Bulgarian language [№ Г.8.1; Г.8.2; Г.8.3; Г.8.5; Г.8.7; Г.8.8; Г.8.9; Г.8.10; Г.8.11; Г.8.12; Г.8.14; Г.8.15; Г.8.16; Г.8.17; Г.8.23 and Г.8.24 in the submitted list of publications].

#### ❖ **By number of co-authors:**

- 4 single-authored publications [№ Г.7.1; Г.7.2; Г.8.1 and Г.8.2 in the submitted list of publications];

- 2 publications with one co-author [№ B.4.6 and Г.8.5 in the submitted list of publications];
- 22 publications with two co-authors [№ B.4.2; B.4.3; B.4.8; Г.7.3; Г.8.3; Г.8.4; Г.8.6; Г.8.10; Г.8.11; Г.8.13; Г.8.14; Г.8.15; Г.8.17; Г.8.19; Г.8.20; Г.8.21; Г.8.22; Г.8.25; Г.8.26; Г.8.27; Г.8.28 and Г.8.29 in the submitted list of publications];
- 14 publications with three co-authors [№ B.4.1; B.4.4; B.4.5; B.4.7; B.4.9; B.4.10; Г.8.7; Г.8.8; Г.8.9; Г.8.12; Г.8.16; Г.8.18; Г.8.23 and Г.8.24 in the submitted list of publications].

Ch. Assist. Prof. Krasen Kirov Angelov, PhD participated in the competition with 3 handbooks, in particular 2 manuals for laboratory exercises and 1 textbook:

- Sadinov S., I. Nedelchev, I. Balabanova, K. Angelov. Guide for laboratory exercises and course project in communication circuits., „Vasil Aprilov” University Publ., ISBN 978-954-683-519-2, 143 pp., 2015;
- Koychev K., S. Sadinov, I. Balabanova, K. Angelov. Communication circuits. Guide for solving course tasks and laboratory exercises. “Alma Mater International” Publ., Gabrovo, ISBN 978-954-318-005-9, 142 pp., 2010;
- Koychev K., K. Angelov, S. Sadinov. Design of interactive cable television networks. “Eks-Pres” Publ., Gabrovo, ISBN 978-954-490-183-7, 298 pp., 2010.

The submitted handbooks fully correspond to the theme of the competition.

The content of the above articles, papers and handbooks fully corresponds to the scientific field of the competition for “Associate Professor”.

## **2. General characteristics of the candidate's activities**

### **2.1. Educational and pedagogical activity (work with students and postgraduate students)**

Ch. Assist. Prof. Krasen Kirov Angelov, PhD has been working at the Technical University of Gabrovo since 2008 and has consistently passed through the positions of „Assistant Professor“ and “Chief Assistant Professor” since 2016 until now in the Department of Communication Equipment and Technology. The scientific-research, engineering and pedagogical activities of Krasen Angelov, PhD are developing in a balanced and simultaneous manner, complementing each other.

Under his supervision, students from the Technical University of Gabrovo took part in national scientific forums such as the National competition and exhibition “Youth Technical Creativity” (2017, 2018 and 2019), European Researcher’s Night at the TU-Gabrovo – 2019, National hackathon “Innovation Academy: IDEAS 2018” and innovation camp “Gabrovo Innovation Camp 2018”. He was a supervisor of students with eight papers in Student Research Session of TU-Gabrovo for the period from 2016 to 2019. During his educational experience as an “Assistant Professor”, Krasen Angelov led laboratory exercises in the disciplines “Analog Circuitry”, “Signals and Systems”, “Digital Signal Processing” and “Design Automation” in the bachelor's degree from the curricula of specialties “Communication Equipment and Technologies”, “Electronics” and “Automation, Information and Control Systems”.

### **2.2. Scientific and scientific-applied activity**

Ch. Assist. Prof. Krasen Kirov Angelov, PhD, participated in the competition for “Associate Professor” with 42 scientific articles and papers and 3 handbooks. In his scientific-applied activity, Krasen Angelov was a head of one and participated in the development of 3 projects at the University Center for Research and Technology, funded by the state budget provided to the Technical University of Gabrovo. He has participated as well in research teams of one national research project and five projects under operational programs, as well as two national and international scientific forums.

### **2.3. Implementation activity**

There is no information provided for implementation activities in companies by the candidate. The contribution of Ch. Assist. Prof. Krasen Kirov Angelov, PhD, in the

establishment of a specialized laboratory “TELECOMTEST” and the development of a number of laboratory setups, models and devices in the field of optical, radio and satellite communications, is indisputable.

### **3. Contributions (scientific, scientific-applied, applied). Significance of contributions to science and practice**

I accept the presented by Ch. Assist. Prof. Krasen Kirov Angelov, PhD eleven contributions. I define the presented contributions as scientific-applied and applied, relating to the scientific interests of the candidate, in the fields as follows – wireless communications and broadcasting, security equipment. I reckon that the requirements for the quantitative indicators of the criteria for holding the academic position of “Associate Professor” are met.

### **4. Assessment of the candidate’s personal contribution**

The independent publications of Ch. Assist. Prof. Krasen Kirov Angelov, PhD and those of which he is the first author are proof of his leading contribution in conducting scientific research. Scientific ideas and approaches, presented and defended at scientific and national forums, conferences, etc., are an assessment of the personal contribution of the candidate.

### **5. Critical remarks and recommendations**

A large part of the evaluation of the presented results from the scientific and creative activities of the candidate for “Associate professor” was consistently set out in the points discussed above in the opinion. Here I can mention only some remarks and recommendations for the future work of Krasen Angelov:

- The contributions submitted by the candidate are not divided into the following categories: “scientific”, “scientific-applied” and “applied”;
- To expand the scope of its implementation activities in relation to business companies in the region and the country, whose subject of activity is related to the field of telecommunications;
- To intensify its participation in projects under the profiled research programs of the European Union, as well as in other international and regional specialized programs.

### **6. Personal impressions**

I personally know Krasen Angelov, PhD as a colleague and lecturer in the Department of Communication Equipment and Technology at the Faculty of Electrical Engineering and Electronics of the Technical University of Gabrovo, as well as from our joint work on common taught disciplines and scientific interests. Ch. Assist. Prof. Krasen Kirov Angelov, PhD is a thorough, serious and qualified researcher. He enjoys the reputation of a competent university lecturer.

### **7. Conclusion**

**In view of the above, I propose Ch. Assist. Prof. Krasen Kirov Angelov, Ph.D. to be awarded the academic position of “Associate Professor” in the field of higher education – 5. Technical Sciences, professional field – 5.3. Communication and Computer Engineering, specialty – “Communication Networks and Systems” (“Wireless Communications and Broadcasting”, “Security equipment”).**

23.10.2020 г.

Member of the scientific jury: /signature/  
/Assoc. Prof. Ivelina Balabanova, PhD/