

STATEMENT

from Assoc. Prof. Dr. Adriana Gousterova, PhD
Department of Biotechnology, Laboratory of Bioremediation and Biofuels,
The Stephan Angeloff Institute of Microbiology, BAS
Professional field 4.3. Biological Sciences, specialty: Microbiology

REGARDING: Competition for the academic position "PROFESSOR", Professional field 4.3. BIOLOGICAL SCIENCES, (ECOLOGY AND CONSERVATION OF THE ECOSYSTEMS – ECOLOGY OF -MICROORGANISMS), announced in the State Gazette Nr.87/19.10.2021

The Scientific Jury for holding of competition for professor to professional field 4.3 Biological Sciences (Ecology and Conservation of the Ecosystems – Ecology of Microorganisms), announced in the State Gazette Nr.87/19.10.2021, was determined by the Decision of the Faculty Council of the Faculty of Biology, protocol Nr.14/07.12.2021, according to article 4 and article 25 from the Law of the Development of the Academic Compositions in the Republic of Bulgaria (LDACRB), article 57 paragraph (1) and (2) from the Regulations for application of LDACRB and according to article 108 paragraph (1) and (3) of the Regulations for the conditions and order for the acquiring of scientific degrees and taking of academic positions in the Sofia University "St. Kliment Ohridski".

As a member of this jury, I declare that I have no common publications, projects or any form of conflict of interests according to the art. 1, paragraphs 3 and 5 of the Law of the Development of the Academic Compositions in the Republic of Bulgaria with the only assessed candidate in the competition associated professor Anelia Evgenieva Kenarova, PhD, from the department "Ecology and Environmental Protection", Faculty of Biology, Sofia University "St. Kliment Ohridski".

The presented documents are in accordance to the directions published in the Regulations for application of LDACRB.

1. BRIEF INFORMATION ABOUT THE CANDIDATES IN THE COMPETITION:

Assoc. Prof. Dr. Anelia Evgenieva Kenarova is the only candidate in the competition for the academic position PROFESSOR, announced by the Sofia University "St. Kliment Ohridski" for the needs of the department Ecology and Environmental Protection, Faculty of Biology.

She graduated as a Master in Biotechnology in the Faculty of Biology, Department of Biotechnology (09.1984 - 06.1989). She has been a specialist in biotechnological processes with a specialization in microbiological processes and technologies, followed by a full-time PhD (01.1993-10.1996), defended in 1996 on the topic "Taxonomic identification of *Streptomyces* sp. K455, characteristics of the produced antibiotic complex and possibilities for its application" in a front of a Specialized Scientific Council of Microbiology, Virology and Immunology at the Higher Attestation Commission, Supervisor: Assoc. Prof. Dr. Venelin Balutsov. Assoc. Prof. Dr. Anelia Kenarova has held the following academic positions: Senior Assistant Professor, as of March 24, 1998 to May 22, 2001; Chief Assistant Professor, as of May 22, 2001 to November 30, 2010; Associated Professor as of 30.11.2010 and continues to work in the Department of Ecology and Environmental Protection, Faculty of Biology.

2. IMPLEMENTATION OF THE REQUIREMENTS FOR THE ACADEMIC POSITION "PROFESSOR"

The only candidate for the academic position "Professor" in the competition presents Documentation with the implementation of the national requirements of the Law about separate indicators and Documentation for the implementation of the additional requirements for tenure of the position of "Professor" according to the Regulations with an included list of 63 full-print articles and reports submitted to the competition 20 (with Q) + 2 (without Q) scientific publications and 2 book chapters.

- Supervisor of 1 defended PhD student and 1 in the process of training, supervisor of 32 successfully defended graduates and 9 of them defended in the period after 2010.
- 1 textbook for university students and 1 textbook for school students have been issued.
- Publications: a total of 63 of which were submitted to the competition 20 (with Q) + 2 (without Q) scientific publications and 2 book chapters.
- Impact factor: total 20.558; impact factor for the competition period: 16.512
- Citations: for the competition period **225** of them:
 - 160 in publications referenced in Scopus and Web of Science:
 - 65 in other databases
- H-index: 7 (Scopus) and 9 (Google Scholar)

Participation in scientific forums - conferences, seminars: a total of 31, of which 14 participations in international conferences or conferences with international participation and 17 participations in national conferences.

Participation and management of scientific and educational projects: a total of 11 projects, of which 8 national (leader of 3 and participant in 5) and 3 international (participant)

3. IMPLEMENTATION OF THE MINIMUM NATIONAL REQUIREMENTS ACCORDING TO THE LDACRB

From the documents of the competition is clearly shown, that Assoc. Prof. Dr. Anelia Evgenieva Kenarova fulfills and exceeds the minimal national requirements, as follows:

According to Group A – 50 points

The candidate obtained the educational and scientific degree "PhD" in 1996.

According to indicator 4 in Group B – 102 points

Habilitation work – scientific publications in international journals which are referenced and indexed in world-famous databases with scientific information Scopus and Web of Science in the period 2013 – 2020: 5 scientific articles with IF (Q1 – 2; Q2 – 2; Q4 – 1);

According to indicators 7 and 8 in Group C – 289 points

Scientific publications in international journals, which are referenced and indexed in world-famous databases with scientific information Scopus and Web of Science in the period 2013 – 2020: 15 scientific articles with IF (Q1 – 2; Q2 – 5; Q3 – 5; Q4 – 2; Q0 – 1) and 2 book chapters;

According to indicator 11 in Group D – 320 points

Citations: for the period of the competition: 225

- 160 in publications referenced in Scopus and Web of Science
- 65 in other databases

H-index: 7 (Scopus) and 9 (Google Scholar)

According to Group E – 212.61 points

Indicator E 13

PhD students: 1 defended – **25 points**, and 1 in the process of training
graduates: 32 successfully defended, 9 of them defended in the period after 2010.

Indicator E 14 – participation in a national scientific or educational project – **50 points**: 5 projects

Indicator E 15 – participation in an international scientific or educational project – **60 points**: 3 projects

Indicator E 16 – management of a national scientific or educational project – **60 points**: 3 projects

Indicator E 18 – attracted funds from the project led by the applicant – **17.61 points**: 2 projects

The scientific works of Assoc. Prof. Dr. Anelia Evgenieva Kenarova fully cover the topic of this competition.

4. Assessment of the candidate's scientific works for her all-round academic development.

The research work of Assoc. Prof. Dr. Anelia Evgenieva Kenarova is reflected in the presented habilitation report.

The main contributions from the activity of Assoc. Prof. Dr. Anelia Evgenieva Kenarova are formed in a summary of 18 pages giving well-systematized information about the performed scientific activity. The contributions in the publications are grouped in 4 main scientific researching directions, which entirely correspond to the direction of the competition and the section, as follows:

- Impact of soil contamination with radionuclides and heavy metals on the condition of soil microbial communities

Habilitation certificate

The presence of a direct relationship between the level of soil contamination with heavy metals and radionuclides and the abundance of soil bacterial communities with a change in their structure has been found.

The contribution is of a fundamentally scientific nature and is original, as it shows for the first time the direction of changes in the spectrum of bacterial catabolism in contamination with radionuclides and heavy metals.

- Impact of fungicides, in particular Quadris^R, on soil bacterial communities

The negative effect of the fungicide Quadris^R on the activity of soil enzymes has been proven.

The use of Quadris^R has been shown to select for antibiotic resistance in soil bacterial communities.

The Biolog EcoPlateTM test has been shown to be suitable for use in monitoring studies to evaluate the effects of heavy metals, radionuclides and fungicides on the catabolic activity and functional profiles of the affected bacterial communities. The contributions are of fundamental scientific and scientific-applied character.

- Ecosystem functions and ecosystem services

It has been established that the intensive development of agriculture in Bulgaria reduces the capacity of agroecosystems to perform a number of ecosystem functions and to provide

ecosystem services. The contributions are of fundamental scientific and scientific-applied character.

- Bacterial communities of extreme ecosystems

PCR amplification followed by restriction analysis (ARDRA) has shown that the bacterial communities of lake Salzàta (The Tear) and lake Babreka (The Kidney) (they belong to the Seven Rila Lakes) have a low level of genetic similarity.

The soils on Livingston Island have been shown to be well stocked with bacteria and actinomycetes of the genus *Streptomyces*. The isolates synthesize an antibiotic complex with activity against phytopathogenic bacteria and can be used as producers of plant protection products. The contribution is of a fundamentally scientific character and is original.

5. Educational and methodical activity

The documents presented in the competition prove the active and long-term teaching activity of Assoc. Prof. Dr. Anelia Evgenieva Kenarova from 2016 until now.

As a senior and chief assistant professor in the Department of Ecology and Environmental Protection, Anelia Kenarova has given practical exercises and field practices in the disciplines:

Ecology and Environmental Protection - for specialties Ecology and Environmental Protection, Biology, Molecular Biology, Biotechnology, Biomangement and Sustainable Development, Biology and Chemistry, Geography and Biology.

Ecology of microorganisms - for the specialty "Ecology and Environmental Protection".

As an associate professor of Ecology and Ecosystem Protection, Anelia Kenarova has given the following lecture courses:

- Ecology and environmental protection
- Ecology of microorganisms
- Waste management
- Environmental monitoring
- Ecology of urban systems
- Atmospheric air quality and control

During the period of her long-term teaching activity, Assoc. Prof. Dr. Anelia Evgenieva Kenarova in the Department of Ecology and Environmental Protection, Faculty of Biology, has prepared graduates of bachelor's and master's programs, has supervised doctoral students, successfully defended and in the process of preparation.

6. Personal impressions of the candidate.

I know Assoc. Prof. Anelia Kenarova from my numerous visits to the Faculty of Biology, Sofia University "St. Kliment Ohridski" from the student years. I have excellent impressions from her research activity, from the energy invested in the work, from her scientific knowledge in the field of ecology, biotechnology, molecular biology. She participates actively in the governing bodies of Sofia University "St. Kliment Ohridski" from 2012.

I am convinced that these qualities will be very useful to her as a professor in the Department of Ecology and Environmental Protection, Faculty of Biology.

7. Critical remarks and recommendations.

I have no remarks and recommendations to the candidate. All documents are prepared according to the requirements.

CONCLUSION

Assoc. Prof. Dr. Anelia Kenarova is an established and promising scientist in the field of this competition (Ecology and Ecosystem Protection – Ecology of Microorganisms). In her scientific career she has grown not only as a researcher, but also as an active organizer of

scientific studies, who is well aware of the problems she works on. As an important aspect of the educational activity of Assoc. Anelia Kenarova is her participation in the development of bachelor's and master's programs, her participation in national and international projects, training of staff. The formulated scientific and applied contributions contribute to the increase of knowledge in ecology, microbiology, biotechnology.

Based on the analysis, I confidently give my positive assessment and recommend the members of the esteemed scientific jury to fully support the occupation of the academic position "PROFESSOR" in the field of higher education in professional field 4.3. Biological Sciences (Ecology and Ecosystem Protection – Ecology of Microorganisms), Sofia University (SU) "St. Kliment Ohridski" by the candidate Assoc. Prof. Dr. Anelia Evgenieva Kenarova.

20.01.2022
Sofia



/Assoc. Prof. Dr. Adriana Gousterova/