

STATEMENT

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on the materials submitted for the competition for appointment to an Associate Professor’s academic position at The Stefan Angeloff Institute of Microbiology at Bulgarian Academy of Sciences in the field of higher education 4. Natural sciences, mathematics and informatics, professional field 4.3 Biological Sciences (Microbiology – Extremophile microorganisms)

1. General presentation of the procedure

By order № I-74/07.06.2021 of the Director of The Stefan Angeloff Institute of Microbiology I was appointed as a member of the scientific jury in a competition for appointment to an Associate Professor’s academic position in the field of Higher education 4. Natural sciences, mathematics and informatics, professional field 4.3 Biological Sciences (Microbiology – Extremophile microorganisms), advertised in a State Gazette № 29 of April 09, 2021 г. The position has been announced for the needs of the Department “General microbiology”, laboratory of Extremophile microorganisms. The only candidate in the competition is Nadia Stoitcheva Radchenkova, who is a Chief Assistant Professor in the same department and laboratory. For participation in the competition Chief Assist. Prof. Radchenkova, PhD has presented 23 scientific publications. The set of digital materials presented by Nadia Radchenkova is in accordance with Academic Staff Development Act in the Republic of Bulgaria and Regulations of the Institute of Microbiology BAS on the Implementation of the Academic Staff Development.

2. General characteristics of the candidate’s research and scientific activities

For participation in the competition Chief Assist. Prof. Radchenkova has presented 23 scientific publications, including: 15 scientific papers, published in journals referenced and indexed in the global databases of knowledge *Scopus* and *Web of Science* reaching total impact factor (30.732). Eight of the papers are published in journals ranking Q1, 3 are published in journals ranking Q2 and 4 published in journals ranking Q3. Six of the papers are published in journals without impact factor and 2 are published as separate chapters in books. Final decision is based not only on the scientific publications but even on the candidate’s participation in 9 scientific research project (3 of them are national and 6 are international) and enclosed list of 320 independent citations in the global databases of knowledge *Scopus* and *Web of Science*. The candidate successfully fulfills and overcomes the minimum national scientific requirements, increased in accordance with BAS requirements and the

additional requirements of The Stefan Angeloff Institute of Microbiology for acquiring the academic position of an Associate Professor.

The scientific publications equal to the habilitation work are focused on the optimization of the process parameters for biotechnological production of microbial exopolysaccharides by halophile and termophile bacteria and the possible application of the polysaccharides in cosmetic preparations. Both microbial strains and polysaccharides are original.

The scientific activities and the achievements of Chief Assist. Prof. Radchenkova, PhD are strictly directed not only to the field of Microbiology, but even on the specificity of the announced competition *Extremophiles sensu stricto*.

The reached results and the achievements could be gathered into two major research areas – (1) – development of biotechnologies for production of microbial bioproducts (polysaccharides and enzymes) by extremophile bacteria (halophiles and termophiles) and (2) microbial ecology, in particular study on the microbial diversity of extreme ecological niches. Both directions are very well developed but predomination of the first is visible. I highly appreciate the fact that research activities of the candidate are not limited to the isolation and identification of extremophile microorganisms but the major goal of the studies is development of the entire process for microbiological production of definite bioproducts. The experiments on the optimization of the process parameters for the biosynthesis, isolation, characteristics and application of polysaccharides, produced by halophile and termophile microorganisms forms the specific scientific style of Chief Assist. Prof. Radchenkova, PhD.

The obtained results and the achievements could be categorized as original scientific -applicable and applicable. The results published by Chief Assist. Prof. Radchenkova, PhD are cited more than 320 times. 320 independent positive citations are registered in the global databases of knowledge *Scopus* and *Web of Science*, which means that these results focused the scientific interest of many scientists.

Chief Assist. Prof. Radchenkova, PhD has been working at The Stefan Angeloff Institute of Microbiology for more than 26 years and her whole scientific career and research expertise is entirely connected with laboratory of Extremophiles and the institution who announced the present academic position of an Associate Professor.

3. Critical notes and recommendations

I have no critical notes on the content and the way of presenting the documents in the competition.

4. Personal impressions and opinion of the reviewer

I do not know personally the Chief. Assit. Prof. Radchenkova, PhD and my personal impression of her is formed only on the basis of the documents applied in this competition and it is entirely positive. The competition documentation has been prepared very precisely.

CONCLUSION

The scientific production of Chief. Assit. Prof. Radchenkova, PhD is entirely within the scope of the professional field and the disciplines of the competition. The presented publications, citations and references for her research activity fully cover the national minimum requirements for the appointment to the AP of “Associate Professor”, as well as the specific additional requirements of The Stefan Angeloff Institute of Microbiology. The candidate in the competition has presented a significant number of scientific papers published after the materials used in her PhD defense procedure. There are original scientific and applied contributions in the works of the candidate. On the basis of the acquaintance with the presented scientific works, their significance, the scientific, applied science and applied contributions contained in them, I find it reasonable to propose Chief. Assit. Prof. Radchenkova, PhD, to be appointed to the academic position of “Associate Professor” in the field of Higher education 4. Natural sciences, mathematics and informatics, professional field 4.3 Biological Sciences (Microbiology – Extremophile microorganisms)

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Prepared by:

(Prof. Velizar Gochev, PhD)