

**TO
THE SCIENTIFIC JURY
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of the Rector of Sofia University “St. Kliment Ohridski”**

REVIEW

of the research and teaching experience of associate professor Assen Ivanov Assenov
for participation in the competition for the academic position Professor
Professional field 4.4. Earth Sciences (Biogeography and soil geography)

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This review was prepared based on a decision of a scientific jury at a meeting on July 21, 2020, following the requirements of the Law on Development of Academic Staff in the Republic of Bulgaria – LDASRB (with the amendments of February 25, 2020), Rules for the Implementation of the LDASRB of 19.02.2019, Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions at Sofia University “St. Kliment Ohridski” (with the amendments of May 20, 2020).

1. DESCRIPTION OF THE PROCEDURE AND THE SUBMITTED DOCUMENTS

1.1. Description of the procedure

The procedure for the academic position “Professor” in the professional field 4.4. Earth Science (Biogeography and Soil geography) was announced by Sofia University “St. Kliment Ohridski”, Faculty of Geology and Geography, department of Landscape Ecology and Environmental Protection. The competition was announced in the State Gazette №13/03.02.2020 and it was published on the faculty’s official website at the time.

There was one candidate for the academic position “Professor” in the professional field 4.4. Earth Science announced by Sofia University “St. Kliment Ohridski”, who had submitted the necessary documents within the announced deadline – Associate Professor Assen Ivanov Assenov, PhD.

1.2. Description of the submitted documents The candidate had applied all necessary documents for the competition:

a) Administrative documents: application for participation in the competition; CV; a spear of certificate for the master and the PhD degrees, and for the Associate Professor; a labor agreement; medical certificate, copy of the announcement in the State Gazette;

b) Documents for the study work: reference for the indicators under Art. 122, Par. 2;

c) Documents for scientific work: list of scientific publications; information by the “The Authors” system for the publications, conferences, projects and scientific guides (of the master's theses); documents proving the fulfillment of the requirements of Art. 115, Par. 1, Item 2; a document for satisfying the minimal requirements for Professor according to the Law on Development of Academic Staff in the Republic of Bulgaria; list of citations (with the relevant evidence); list of the abstracts of the peer-reviewed publications in Bulgarian and English; reference for the original scientific contributions.

Conclusion: *The procedure for the competition for the academic position of “professor” in a professional field 4.4. Earth Sciences (Biogeography and Geography of Soil Geography) and the submitted documents conform to the LDASRB, Rules for the Implementation of the LDASRB, and the Terms and Requirements for Acquisition on Academic Degrees and Occupation of Academic Position at Sofia University “St. Kliment Ohridski”.*

II. PROFESSIONAL BIOGRAPHY AND SCIENTOMETRIC DATA

2.1. Biographical sketch of Associate Professor Assen Assenov

Assen Assenov completed a master’s degree in Geography from Sofia University “St. Kliment Ohridski”, and a doctorate degree at the same university in 2013 (4.4. Earth Sciences – certificate № CY2011-16, 19.12.2013). Assen Assenov served as an Assistant from February 1, 1986 to May 16, 1989, Senior Assistant from May 16, 1989 to March 26, 1992, Chief Assistant from March 26, 1992 to March 13, 2012. He was promoted to Associate Professor in March 2012 in the scientific field Biogeography and Soil Geography (certificate № CY2012-32, 29.11.2012).

Associate Professor Assen Assenov is a member of the following professional associations and institutions – Bulgarian Geographical Society, and the Section “Biology” of the Union of Scientists in Bulgaria.

Associate Professor Assen Assenov is a member of 10 scientific juries (five juries for the acquisition of the doctorate degree, two juries for the acquisition of an academic

position, a Chief Assistant, and three juries for the acquisition of an academic position, an Associate Professor).

Associate Professor Assen Assenov is currently chief editor of *Annuaire de l'Universite "St. Kliment Ohridski"* – Geography, and chief editor of the book „Biodiversity of the National Park "Rila"”.

Associate Professor Assen Assenov is currently the chief of Landscape Ecology and Natural Capital department within Sofia University "St. Kliment Ohridski”.

2.2. Scientometric data and minimal national requirements

Associate professor Assen Assenov submitted 54 scientific publications: one monography ("Biography", published by the Publishing house of Sofia University "St. Kliment Ohridski", with a volume of 424 pages); 12 scientific works in journals refereed or indexed by the SCOPUS database and World-of-Science database; 37 publications in peer-reviewed journals, three chapters in books, one textbook for the students in the universities. There are 19 abstracts in the applicant's list, which are out of this scientific review.

Scientometric indicators. The scientific works of Assen Assenov, according to different indicators, are the following. The candidate is the sole author of 14 works (25.9%) and co-author of the rest of the scientific publications (74,1%). Associate professor Assenov is the primary author in 27 (50.0%) papers, second author in 18 (33.3%) papers, third author in six (11.1%) papers, fourth author in two (3.7%) papers. There is one publication where he is the eight author (1.9%).

The majority of Assenov's publications are articles in scientific journals (13 publications in *Seminar on Ecology*, 11 publications in *Annuaire de l'Universite "St. Kliment Ohridski"*, three publications in *European Journal of Sustainable Development* and etc.) followed by articles in conference proceedings. Most research articles were published in local journals whereas four (7.4%) articles are published in three foreign journals (*European Journal of Sustainable Development*, *Ankara University Journal of Environmental Sciences* and *Phytocoenologia*).

The scientific journal with the highest SJR, where Assenov was published, is "One ecosystem" (SJR – 0.64).

Publication productivity: Assen Assenov has been producing scholarly publications each year. On average, Assen Assenov contributed six publications each year and the maximum number of 13 publications were produced in 2016.

Compliance of the scientific works with national minimum requirements. The review of the submitted publications finds several inaccuracies in the data for the scientific works described in the applicant's list.

- Publication D¹-7.02 is in the journal Chemistry. Bulgarian Journal of Chemical Education (Chemistry. Natural Sciences in Education), which is not present in the list of indexed journals of SCOPUS, as well as in the list of NACID, which reduces the points from 13.3 to 10 (20/2).

- Publications D-7.03, D-7.04, and D-7.11 in Springer's books do not refer to scientific papers published in indexed and referenced in the world-famous databases SCOPUS and Web of Science, but to indicator G-9 – published chapter in a collective monograph, which reduces the points as follows: for publication D-7.03 – from 13.3 points to 3.3 points; publication D-7.04 – from 40 points to 10 points; publication D-7.11 – from 20 points to 5 points.

- Publications D-7.07, D-7.08 and D-09 are printed in the journal European Journal of Sustainable Development, which is not presented in the list of indexed journals of SCOPUS, which reduces the indicated points: for D-7.07 – from 6.7 points to 3.3 points; for D-7.07 – from 10 points to 5 points; for D-7.09 – from 8 points to 4 points.

- The citation in Lazaroa magazine is evaluated with 5 points due to its indexing in SCOPUS, instead of the indicated 3 points;

- Three citations in the Journal of Balkan Ecology are evaluated with 5 points instead of 3 points, due to the indexing of the journal in the Web of Science;

- The citation in “Mysteries of Zoogeography” is not accepted due to the popular science content of the book, which reduces the number of citations on indicator D-11 from 16 to 15, and the total number of citations from 80 to 79;

- Publications D-7.12 is in the journal ECOLOGIA Balkanica, indexed in the Web of Science (since 2009) and not in SCOPUS.

I am adding to the list of scientific works the following chapter in the book: Grigorov, A. Assenov. Alteration of Ecosystem of Svoge Municipality from 2012 to 2018. Contemporary Studies in Sciences, Cambridge Scholar Publishing, 2020. This study was not presented in the list of publications. It adds 5 points to the category “D”, and this scholarship increases the scientific works to 55.

¹ The alphabetical list of indicators is in accordance with the Latin alphabet order while in the review in Bulgarian it follows the order of the Cyrillic alphabet.

The scientific works of Assen Assenov, after the corrections made, receive the following point evaluations according to the indicators of the minimal national requirements in the categories “B”, “C” and “D”:

Indicator group	Indicator	Number	Number of points
C*	3. Monograph	1	100
	7. Scientific works published in scientific journals referenced and indexed in world-renowned scientific information databases	6	81,1
D**	8. Scientific works published in peer-reviewed scientific journals or in peer-reviewed volumes	41	375
	9. Published chapter of a collective monograph	5	39,1
	<i>Total number of points per indicator group „D“</i>		
	10. Citations in scientific publications, referenced and indexed in world-renowned scientific information databases	26	130
E***	11. Citations in monographs and collective volumes with scientific review	15	45
	12. References and/or reviews in non-refereed journals with scientific review	38	79
	<i>Total number of points per indicator group „E“</i>		

* „Б“ in Bulgarian; ** „Г“ in Bulgarian; *** „Д“ in Bulgarian

The total number of points per indicator group “F” (“E” in Bulgarian) is 180 or more than the required minimum of 150 points. The candidate is the head of scientific projects at the Science Foundation of Sofia University “St. Kliment Ohridski” and a participant in national research projects, author of a university textbook.

Conclusion: Assoc. Prof. Assen Assenov covers all requirements of the Art. 29 in LDASRB, Art. 60 in Rules for the Implementation of the LDASRB, and Art. 115 in the Terms

and Requirements for Acquisition on Academic Degrees and Occupation of Academic Position at Sofia University “St. Kliment Ohridski”:

- he has obtained the educational and scientific degree PhD;

- he has covered all the requirements for the academic position of Associate Professor and is inducted in the Register of Academic Staff, supervised and maintained by NACID

- he holds the academic position of “Associate Professor” at Sofia University “St. Kliment Ohridski” for more than five years;

- he has submitted original research papers that are in the scientific field of the announced competition, and which do not repeat those for participation in the competition for the academic position of “Associate Professor”;

- he covers the minimal national requirements (under Art. 2b, para. 2 and 3 of ZRASRB) – the total number of points is 1008.5 points, 1.7 times the required 600 points.

- there is no legally proven plagiarism in scientific works.

III. ASSESSMENT OF THE APPLICANT'S SCIENTIFIC WORK AND ACHIEVEMENTS

The research activity of Assoc. Prof. Assen Assenov focuses on analyzing the geographical aspects of biological diversity (and especially phytocoenological diversity) in areas with different scope, on the proving of the link of biogeographical research with the landscape researches, to the perception of the biodiversity as a part of the natural capital. The scientific works contain solutions to scientific and applied problems which correspond to modern advances in science. Assoc. Prof. Assen Assenov uses modern methods in his researches, and he interprets his results very carefully.

The monographs “Biogeography” and “Biogeography and Natural Capital of Bulgaria” occupy a central place in the research activity of assoc. prof. Assen Assenov.

- The monograph “Biogeography” (volume of 430 pages) represents a comprehensive description of the biogeography. The author consecutively describes the object, and the development of biogeography (from ancient ages to the last two decades of the 20th century), the approaches and the methods of biogeographical research. There is special

attention to the regularities of the distribution of different species in the book. An important part of this monograph occupies the concepts for classification of plant communities and the principles for biogeographical regionalization. The author describes the terrestrial land biomes and the biotic kingdom of the world ocean. Assenov gives alphabetical indexes of floristic and faunistic taxa also.

The second monography – “Biogeography and Natural Capital of Bulgaria” (volume of 928 pages, in print), gives valuable and very detailed information for geographical distribution of the biotic communities of the country. The author pays special attention to endemics and relicts in the Bulgarian flora and fauna, and to the invasive plant species too. A considerably important place in the book occupies the biodiversity of the biogeographical regions in the country. A contribution of this monograph is evaluating the natural capital of each biogeographical region through ecosystem goods and services.

The monographs “Biogeography” and “Biogeography and Natural Capital of Bulgaria” (extended and supplemented editions of the previous books “General Biogeography” and “Biogeography of Bulgaria”, respectively) are original and unique scientific works in the field of biogeographic science in Bulgaria. Both books demonstrate associate professor Assen Assenov’s wide knowledge in the biogeography field.

The research activity of Assoc. Prof. Assen Assenov proves the following significant scientific and scientifically applied contributions from my point of view²:

1. Studying and describing of the floristic diversity of:

- border areas through: creation and georeferencing of data on the vegetation of six Balkan countries (D 7-06); development of a map of ecological networks in the border area between Bulgaria and Serbia (D 7-07); analysis of protected areas in border areas with Northern Macedonia (D-8 7.);

- the areas of Bulgaria through: new information for the floristic diversity for Mesta River Valley floristic region (D 7-01) and so-called Peritsa mountain (D 8-6), identification and analyses taxa of conservation significance in Mala Planina (D 7-08), description of the distribution, floristic composition, vegetation structure and syntaxonomy of the protective forest belts in Silistra Municipality (D 7-12), assessment of the habitat diversity of Satovcha Municipal (D 8-3), description of habitat types 91H0 and 91AA in the Dospat River Valley (D 8 3).

² it does not coincide with the author's point of view for his contributions

2. Well-founded the thesis for

- integrating the habitat diversity as a criterion to the landscape differentiation (D 8-22, D 8-22);

- the position of the ecosystems services in the triangle with peaks “innovative economy”, “ecology”, and “social equity” for an assessment of the natural capital in the context of sustainable development (D 7-02);

- the natural capital as a set of landscape functions within its geosystem boundaries (D 7-03);

- integrating land cover classes, the habitat diversity, biotopes and landscapes for the evaluation of ecosystem goods and services (D-7 07);

- researching the biodiversity in the context of the national security (D 8-2).

3. Defending the idea for the inclusion of

- small border stretch of Dospat River Valley to the protected area „Western Rhodopes“ and unification with the protected area GR1140008 in Greece;

- the southern slope of the Peritsa Mountain (located in Greece) in the ecological network NATURA 2000 (D-8 6).

4. Evaluating of ecosystem goods and services of

- the administrative units: city – Kalofer (D - 8 19); municipalities – Chepelare (D 7-07), Karlovo (D 7-10), Satovcha (D - 8 1 and D - 8 1), Sofia, Svoge, Kostinbrod, and Dragoman (D 8-17), Apriltsi (D 8-19); provinces – Smolyan (D - 8 19);

- the urban areas (D-9 3);

- the biogeographical area (E-20 1).

5. Proving that biogeography is an important science for

- the sustainable development;

- the establishment of biosphere parks (under the UNESCO MAB Program);

- for the creation of sites of NATURA 2000 ecological network.

Conclusion: The scientific research activity of assoc. prof. Assen Assenov conforms of the scientific area of the announced competition. The candidate uses different methods in his works (cartographic, inquiry and etc.). The scientific work of Assen Assenov is thematically sustainable, with significant research and scientific-applied contributions.

Assen Assenov works equally successfully individually and in a team (including an international one) with specialists from his and similar fields.

IV. ACADEMIC TEACHING ACTIVITIES AND TEACHING EXPERIENCE

Assoc. Prof. Assen Assenov is a full-time and long-standing lecturer at the Faculty of Geology and Geography of Sofia University “St. Kliment Ohridski”.

4.1. Lecture-halls employment

Assoc. Prof. Assen Assenov has an average workload of teaching for 2012–2017 of 537 hours for an academic year (between 675 hours for 2014/2015 academic year and 319.5 hours for 2017/2018 academic year) in the two educational degrees – bachelor’s degree and master’s degree. The workload of teaching is way higher than the required minimum (270 hours).

Assoc. Prof. Assen Assenov has developed lecture courses in both bachelor's and master's programs. He leads several lecture courses – Biography, Biography of Bulgaria, Phytocenology, Protected areas of Bulgaria, Geobotany, Natural Environment and Natural Resources, Forest Resources Management of Bulgaria, Geography of Continents.

Assoc. Prof. Assen Assenov takes part in the examination commissions.

4.2. Guidance of diploma theses and PhD theses

Assoc. Prof. Assen Assenov has been the scientific adviser of seven successfully graduated MSc theses during 2012–2019. He has been the scientific tutor of one PhD student who successfully defended his thesis, and who works as an assistant in the same faculty. Assoc. Prof. Assen Assenov is currently the head of one PhD student.

Assoc. Prof. Assen Assenov has been the academic tutor of two students of the European program “Student Practices”.

Conclusion. The academic teaching activities and experience conform to Art. 86, Par. 2 from Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions at Sofia University “St. Kliment Ohridski”.

AN ULTIMATE CONCLUSION

I recommend associate professor ASSEN IVANOV ASSENOV for the academic position of Professor in the professional field: 4.4. Earth Sciences, scientific specialty Biogeography and Soil Geography because there are original scientific contributions in the field of biogeography in his studies, and purposeful activities on the methodology for valuing ecosystem services. He is an active participant in academic education on the faculty and in scientific juries for academic positions, supervises successful master and doctoral thesis, chairing the department of Landscape Ecology and Environmental Protection. Associate professor Assen Assenov is eminently qualified and a successful scientist and qualified in the field of biogeography.

20 August 2020 г.
Sofia

Signature:
(Professor Nelly Hristova, PhD)