OPINION

on the materials submitted for participation in a competition for **„Professor"** in the field of higher education **5. Technical Sciences**, Professional field **5.13. General Engineering**, scientific specialty **"Ergonomics and Industrial Design"** in the discipline **"Home Interior and Furnishing Design"**

In the competition for **"Professor"** announced in the State Gazette, issue 18 of 01.03.2024, and on the University of Forestry website with procedure code **WWI-P-0224-123** for the needs of the Department of Furniture Production at the Faculty of Forest Industry, **the candidate is Assoc. Prof. eng.-diz. Pavlina Minkova Vodenova Ph.D.**, Faculty of Forest Industry, Department of "Furniture Production."

Opinion prepared by: Assoc. Prof. Dr. Silvina Dimitrova Ilieva, Associate Professor in 5.13. General Engineering, scientific specialty "Ergonomics and Industrial Design" from the Technical University of Sofia, Plovdiv Branch, Faculty of Mechanical Engineering, Department of "Mechanics."

1. Brief biographical data for the candidate

Assoc. Prof. eng.-diz. Pavlina Minkova Vodenova Ph.D. was born on August 7, 1976, in Sofia. She completed her secondary education in 1995 at the Financial and Economic High School. She graduated higher education in 2000 at the University of Forestry, Sofia, as an engineer – Master in "Interior and Furniture Design."

After graduating from University of Forestry, she worked as a designer from 2000 to 2005 in companies involved in furniture production and trade (SKS Unidesign, AVEL – 52 Ltd., AGON Ltd.). She then worked for four years as a product specialist at Kammarton Bulgaria Ltd.

She started working at the University of Forestry, Sofia on August 15, 2009, successively holding the positions of "Assistant" (August 15, 2009 – April 11, 2018) and "Chief Assistant" (April 12, 2018 – October 1, 2020). She also worked as an adjunct lecturer at the New Bulgarian University, Sofia (September 2009 – July 2015), where she conducted lectures and practical sessions.

In July 2017, she obtained the educational and scientific degree "Doctor" in the scientific specialty "Technology, Mechanization, and Automation of Woodworking and Furniture Industry," professional direction 5.13 "General Engineering." The topic of her dissertation was "Systemic Approach in Designing Children's Environment in the Modern Home."

Since October 1, 2020, she has held the position of "Associate Professor" at the University of Forestry, Faculty of "Forest Industry," Department of "Furniture Production," and since March 19, 2024, she has been the Head of the same department. She conducts lectures and practical sessions in many disciplines at the bachelor's and master's levels in several specialties at University of Forestry.

She is proficient in English (B2), Russian (B1), and French at a basic level.

2. Correspondence of the submitted documents and materials of the applicant according to the Rules of the Development of academic staff at the University of Forestry.

The submitted documents and materials of the candidate, Assoc. Prof. eng.-diz. Pavlina Minkova Vodenova Ph.D., are in conformity with the requirements of the Law for Development of Academic Staff in Republic of Bulgaria and Rules of the Development of academic staff at the University of Forestry.

All documents are logically organized and supported with evidential material, systematized in 29 appendices.

The minimum national requirements for the research and teaching activities of the candidate in the competition for the academic position of "Professor" have been met as follows:

- **A:** Dissertation – **50 points** (required – 50 points);
- **B:** Monograph – **100 points** (required – 100 points);
- **C:** Scientific publications – 395.66 points (required – 200 points);
- **D:** Citations – **150 points** (required – 100 points);
- **E:** Other activities – **240 points** (required – 150 points).

The total score is **935.66** points, while the required minimum is 600 points, thereby meeting and, in some categories, significantly exceeding the minimum national requirements for the academic position of "Professor."

33. Assessment of the candidate's educational and pedagogical activities

The candidate, Assoc. Prof. eng.-diz. Pavlina Minkova Vodenova Ph.D., conducts lectures and practical sessions in the following disciplines:

- **Lectures:**
  - "Residential Interior and Furniture Design" for students in the "Engineering Design" Bachelor's program.
  - "Design Process Management," "Design of Environments for People with Disabilities" for students in the "Engineering Design" Master's program.
- **Practical Sessions:**
  - "Residential Interior and Furniture Design," "Design Process Management," "Design of Environments for People with Disabilities," "Stylistic Interior Design," "Avant-Garde Furniture Design," and "Lighting Design" for students in the "Engineering Design" Bachelor's and Master's programs.
  - "Interior Architecture" for students in the "Wood Technology and Furniture" and "KTMI" Bachelor's programs.

She has supervised 35 graduate students over the past five academic years. According to the attached report, she has reviewed 115 diploma theses and has supervised one doctoral student who has been granted the right to defend.

She has developed curricula at LTU for:

- "Residential Interior and Furniture Design" – Bachelor's degree;
- "Modeling" – Bachelor's degree;
- "Design Process Management" – Master's degree;
- "Lighting Design" – Master's degree;
- "Design of Environments for People with Disabilities" – Master's degree;
- "Children's Environment Design" – Master's degree.

She actively participates in working groups for the accreditation of specialties at the Faculty of Forest Industry, accreditation of doctoral programs, institutional accreditations, and post-accreditation control procedures, as a member of the preparation committees. She is a member of the Organizational Committee of the International Scientific Conference "Innovations in the Forest Industry and Engineering Design" (INNO). Additionally, she is a member of the Faculty Council of the Faculty of Forest Industry and participates in working committees at the Faculty of Forest Industry - the Certification Committee and the Teaching Activities Committee. She is also a member of the project evaluation committee for the overall graphic design competition for the Continuing Education Center at University of Forestry as an expert and leads the "Sketching and Visual Communication" course at the same center. She is a member of the jury for the "Project Week" educational module and other extracurricular events. She actively participates in institutional and international teams on research and educational projects.

The classroom and extracurricular workload of Assoc. Prof. eng.-diz. Pavlina Minkova Vodenova Ph.D. over the past five years meets and exceeds the normative requirements.

4. Assessment of candidate's scientific, scientific-applied and publishing activities

General Description of the Submitted Materials: Assoc. Prof. eng.-diz. Pavlina Minkova Vodenova Ph.D. participates in the competition with:

- 1 monograph (habilitation thesis);
- 1 monograph, not presented as the main habilitation work;
- 1 book;
- 18 publications;
- 1 completed author project in the field of architecture or design;
- 1 university textbook;
- 1 recognized application for a utility model, patent, or copyright certificate.

All the above-mentioned materials are assets declared after obtaining the academic position of "Associate Professor."

4.1 Participation in scientific, scientific-applied and educational projects

The candidate presents participation in the following scientific, educational, and applied projects:

- 4 national scientific-educational projects funded by various operational programs;
- 7 international scientific-educational projects;
- 5 applied projects funded by University of Forestry.

4.2 Characterization of published scientific results

The presented scientific-applied and publication activities are characterized by:

- 1 monograph (habilitation thesis) – single-authored;
- 1 monograph, not presented as the main habilitation work – co-authored;
- 1 book (based on the defended dissertation for the award of the educational and scientific degree "Doctor");
- 1 textbook;
- 18 publications and articles in scientific journals;
- 1 recognized application for a utility model, patent, or copyright certificate;
- 1 completed author project in the field of architecture or design;

In total, 22 items (excluding the utility model and author project), which can be classified as:

- Indexed in Web of Science and SCOPUS – 9
- In non-indexed scientific journals – 9
- In collective monographs – 1
- Single-authored monographs – 1
- Books and textbooks – 2

Site of publication:

- In Bulgaria – 19
- Abroad – 3

Publication language:

- In Bulgarian – 12
- In English – 10

Co-authorship:

- Single-authored – 9
- With one co-author – 6
- With two co-authors – 3
- With more than two co-authors – 4

4.3 Reflection of Candidate's Scientific Publications in Literature (known citations)

A total of 28 citations. According to the type of citations:

- In scientific journals indexed and referenced in world-renowned databases (Web of Science and SCOPUS) or in monographs and collective volumes – 10 citations
- In monographs and collective volumes with scientific peer review (outside Web of Science and SCOPUS) – 14 citations
- In non-indexed peer-reviewed journals (outside Web of Science and SCOPUS) – 4 citations

4.4 Contributions to the candidate's work (scientific, scientific-applied, applied)

The scientific works submitted for the competition are related to solving theoretical and practical problems in the following areas: social design, residential interior and furniture design; furniture and interior design; design of children's environments; innovative teaching methods in higher education; design process management and design thinking. The problems investigated are predominantly theoretical and theoretical-applied in nature. The results of the conducted theoretical and methodological research represent a modern contribution to the field of interior design and can be useful to design students, designers, architects, and all non-specialists with interests in these areas.

Summarizing the content of the scientific production presented in the competition, the main contributions can be grouped as follows:

Scientific and theoretical contribution:

- Social design for children is examined as a phenomenon that reflects the growing recognition of the importance and potential of design. It is considered a process of creating innovative and sustainable solutions to social problems by involving stakeholders and addressing their needs and desires. (V3.1; G7.4; G7.5)
- A theoretical model and methodological guidelines for designing single items and environments intended for children have been created, considering the influence of function, construction, material, and the peculiarities of this type of interiors. (G6.1)
- The application of design thinking as a broad-spectrum methodology that can benefit both the private and public sectors has been established. It is proven that it could be a successful tool at the core of developing new solutions. (G5.1; G7.5; G7.9; G8.5; G8.7; E23.1)
- New phases have been added to the interior design process, and new connections between them have been discovered in the context of the contemporary technological development of the design process. (G7.2; G7.6; G7.8)
- A utility model has been created, representing a system of sensors for analyzing and evaluating interior spaces, zoning, and furnishing. (G7.8; E26.1)

Scientific-applied contribution:

- The significance of social design for children and how it can affect them has been proven. Factors contributing to its emergence and evolution have been tracked, summarized, and systematized. The development of social design for children has been traced in harmony with different cultures, contexts, and traditions for involving children in social change. (V3.1; G.5)
- Models of applying social design that have become sustainable over time have been researched. Based on the research, the main principles that should be considered when designing for children have been clearly defined. The possibilities of integrating social design as an approach that should be used to improve modern design methods and practices have been established. (V3.1; G7.4; G7.5; G8.6)
- The main factors influencing the construction of modern furniture and interiors have been systematized. The relationship between color, shape, composition, material, and lighting

has been established. The construction of the interior as a spatial composition has been studied, and the main building elements forming the space have been examined. The interaction between the elements of volumetric-spatial composition, the way of perception, and compositional principles have been proven. (G7.2; G 8.1; G8.2; G 8.3; G8.4)

- An algorithm of work in the individual phases of the analysis and design of children's furniture and interior has been systematized and defined. Prospective directions for building a children's environment and furniture have been summarized. (G6.1)
- The specifics of design thinking have been defined - from the focus on understanding the needs of all stakeholders to identifying the needs and defining a specific problem. (G5.1; G8.5; G8.6; G8.7; E23.1)
- An innovative model for student training has been proposed and tested, generating a spirit of collaboration, quality communication, identifying strengths, and positive attitudes among all participants. (V3.1; G7.5; G7.6)
- The peculiarities of design education for students have been analyzed and clarified. It has been proven that through the use of key factors such as insight into the essence of the creative profession, creating a specific creative atmosphere, and teacher-student relationships, as well as the use of new, non-traditional teaching methods, creative confidence and professional work skills are fostered in students. (G7.3; G7.4; G7.5; G7.7; G7.9; G8.8; G8.9)
- A methodology for conducting project-based design tasks, initiated by real investors, characterized by placing participants in conditions as close to reality as possible, and aiming to find a solution to a specific problem in a short time, has been developed. This methodology helps to correctly conduct these design tasks and ensures a good final result. (G7.3; G7.4; G7.5; G7.7; G7.9; G8.8; G8.9)
- A sensory method applicable to studying the dynamics of residential and public interior inhabitation, in ergonomic, functional, and geometric research of contemporary residential space, has been created. (G7.8; E26.1)

Applied contribution:

- The benefits of social design for children have been analyzed. Its various manifestations have been systematized – design for development, design for social innovation, design for social change, etc. Through examples, it has been proven how social design can impact children's social, emotional, and physical well-being. Numerous educational institutions that create and provide training in the field have been distinguished. (V3.1)
- The methodology of design thinking has been researched and presented in Bulgarian. (G5.1; G8.5; G8.6; G8.7; E23.1)
- New design methods for designing children's furniture and environments have been tested. New methods for researching and designing specific functions characteristic of children's daily lives have been introduced into student training. An algorithm of work in the individual phases of analysis and design of children's products and environments has been systematized, which will be useful both in the educational process of students and for all specialists in the field of interior design. (G6.1)
- A methodology for conducting a new module in the training course of students from the specialty "Engineering Design," called "Design Project," has been tested and developed. The effectiveness of this module has been proven in more than ten years of testing. The stages of particular importance during the implementation of this student module are clearly distinguished: topic selection, student composition, module preparation, and organization, etc. (G7.3; G7.7; G7.9; G8.8; G8.9)
- New teaching methods have been tested, which not only increase student engagement but also bring innovations to the approach itself. By using the possibilities of gamification,

student engagement and confidence during the work process are increased. (G7.3; G7.4; G7.5; G7.7; G7.9; G8.8; G8.9)

- The impact of design thinking, as a simple but powerful formula leading to the creation of solutions with visible added value for the client, and thus guaranteeing a positive result for organizations, has been studied. (G5.1; G8.5; G8.6; G8.7; E23.1)

5. Assessment of the applicant's personal candidate

In the provided list of publications, the candidate demonstrates a leading role in the presented works. Assoc. Prof. eng.-diz. Pavlina Minkova Vodenova Ph.D. is the author of 9 independent publications. Additionally, there are 6 co-authored publications with one co-author, 3 with two co-authors, and 4 with three or more co-authors. These works reveal not only the candidate's professional and scientific preparation but also her abilities to work successfully in a team.

After reviewing all the works of Assoc. Prof. eng.-diz. Pavlina Minkova Vodenova Ph.D. presented in the competition for the "Professor" position, I consider that the contributions contained therein are her work or have been achieved with her significant participation.

I would only recommend that the candidate present the contributions in a more concise form, as some of them could be consolidated.

6. Critical remarks

I have no substantial critical remarks on the materials presented for the competition.
It is evident that the candidate's scientific, applied scientific, and educational activities not only meet but also significantly exceed the minimum requirements for the academic position of "Professor."

I would recommend that the candidate publish future research and developments primarily in refereed and indexed scientific journals, especially those abroad, included in "world-renowned scientific information databases."

7. Personal impressions

I have known the candidate for a short time, but I have excellent impressions of her as a scholar, researcher, teacher, and mentor. She has extensive teaching experience and is a dedicated and thorough professional in the field of the competition.

After thoroughly reviewing the materials submitted for the competition for the position of "Professor," I can conclude that Associate Professor Dr. Eng. Pavlina Minkova Vodenova is a dedicated teacher and colleague, distinguished by excellent mentoring qualities, creativity, and teamwork skills. I believe she possesses all the necessary qualities for the academic position of "Professor."

8. CONCLUSION

Based on all the points mentioned above in this opinion, I strongly vote <u>"FOR"</u> and <u>RECOMMEND</u> that the candidate Associate Professor Dr. Eng. Pavlina Minkova Vodenova be appointed to the academic position of "Professor" in the discipline "Residential Interior and Furniture Design" in the Professional Field 5.13. General Engineering, scientific specialty "Ergonomics and Industrial Design."

Prepared by:
(Associate Professor Dr. Silvina Dimitrova Ilieva)

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