

# OPINION

by Prof. Dr. Eng. Stoyo Todorov  
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on the submitted materials for participation in the competition for participation in the academic position "Associate Professor" in the professional field 5.7. "Architecture, construction and geodesy", scientific specialty "Building constructions (Reinforced concrete constructions)", announced in State newspaper, issue 15 of 19.02. 2021

In the competition for associate professor, announced in the State newspaper, issue 15 of 19.02.2021 and on the website of VSU "Lyuben Karavelov" for the needs of the Department "Building Structures" at the Faculty of Civil Engineering, participates as a candidate Chief Assistant Dr. Eng. Stanislav Tsvetkov from the Department "Building Structures" to The Faculty of Civil Engineering of VSU "Lyuben Karavelov".

## 1. Brief biographical information

Mr. Stanislav Tsvetkov was born in 1984. He graduated with a degree in Construction of Buildings and Facilities at the Faculty of Civil Engineering of VSU "Lyuben Karavelov" Sofia in 2011 with a master's degree in Civil Engineering (specialization Building structures). From 2013 to 2018 he was a doctoral student in the Department "Building structures" at the Faculty of Civil Engineering of VSU with scientific supervisor Assoc. Prof. Dr. Eng. Georgi Georgiev. On 18.05.2018 he successfully defended his dissertation on "Antiseismic provision of special reinforced concrete structures" ("Seismic analysis of reinforced concrete ground water tanks") for the acquisition of educational and scientific degree "doctor".

In the period 2010-2014 Dr. Tsvetkov is a full-time assistant at Department "Building structures", and since 2014 he is a part-time assistant. Since 2019 so far he has been working in the Department "Building structures" at the Faculty of Civil Engineering of VSU as a Chief assistant.

**2. General description of presented materials** (by groups of indicators, defined in the Regulations for application of the Law for development of the academic staff in VSU, professional field 5.7.).

The candidate Ch. Assistant Professor Dr. Eng. Stanislav Tsvetkov participated in the competition with two monographs, 25 scientific publications and a textbook, list of citations, works of candidates and other documents certifying the fulfillment of the criteria for The Law on the Development of Academic Staff in the Republic of Bulgaria.

In group of indicators A as a dissertation for awarding an educational and scientific degree "Doctor" is presented "Antiseismic provision of special reinforced concrete structures", University of Structural Engineering and Architecture (VSU) „L. Karavelov” - Sofia, successfully defended in 2018.

In group of indicators B as a habilitation work - monograph is presented "Reinforced concrete structural shear walls - antiseismic "discs", Sofia, 2020 ISBN: 978-954-331-115-6.

In indicator G presents a second monographic work - Constructors for civil engineers - the prefabricated one-storey buildings of reinforced concrete elements. VSU, S., 2019 ISBN: 978-954-331-103-3, and 25 publications referenced in various databases.

In indicator D presents a list of 53 independent citations in scientific editions, referenced and indexed in world-famous databases with scientific information or collective volumes and citations in monographs and collective volumes with scientific reviewing.

In group E Ch. as. Dr. Eng. Stanislav Tsvetkov has declared two participations in funding from the Ministry of Education and Science and participation in a published university textbook or textbook that is used in the school network.

The review made shows that ch. Assistant Stanislav Tsvetkov, PhD, exceeds the basic minimum national requirements and those in the Regulations of VSU.

### **3. Reflection of the candidate's scientific publications in the literature** (known citations)

In addition to the monographs ch. Assistant Professor Dr. Eng. Stanislav Tsvetkov is the author and co-author of a total of 28 scientific publications. They are cited 53 times by our and foreign authors in authoritative publications, which speak of the wide response of the candidate's scientific contributions to the literature.

## **4. General characteristics of the candidate's activity**

### **4.1. Educational and pedagogical activity** (work with students and doctoral students)

From the long-term pedagogical activity of Ch. Assistant Dr. Eng. Stanislav Tsvetkov is a "Innovations in Industrial Architecture" in co-authorship. His teaching skills are underlined by the new training projects on "Reinforced concrete" and "Antiseismic design of buildings and facilities" for "Construction of buildings and facilities" and "Modern computer calculation methods in construction design" for specialization "Building structures" master's degree. Mr. Tsvetkov is the head of a large number of graduates (and their diplom thesis) approximately 154, some of which have won diplomas and distinctions at specialized forums.

### **4.2. Scientific and scientifically applied activity**

The scientific the interests of Ch. Assistant Professor Stanislav Tsvetkov, PhD, can most often are in the fields of: reinforced concrete, reinforced concrete structures, including computer modeling with specialized software (based on the work on the finite element method). They are continuation and in depth of the scientific and applied solutions of reinforced concrete structures - for buildings and special reinforced concrete structures - construction facilities, including computer modeling with special software. Over time, Ch. Assistant Professor Dr. Eng. Stanislav Tsvetkov also focuses on research and analysis of structural and architectural problems of buildings and facilities. The monographs "Reinforced concrete structural shear walls - anti-seismic "discs" and "Constructors for civil engineers - the prefabricated one-storey buildings of reinforced concrete elements" deserves special attention.

### **4.3. Implementation activity**

No data on protected patents.

Mr. Tsvetkov in 2010, 2011 and 2012 he successfully introduces the Eurocodes as a standard for design in the educational process: Eurocode 2 in the course projects at the college and Architecture, for to disciplines: "Reinforced concrete" and "Reinforced concrete structures" - by beam structures; and Eurocodes: 2 and 8 in the course projects for "Construction and architecture of buildings and facilities" for the discipline "Reinforced concrete structures" - for beamless slabs and wall structures. Over time, the application of the Eurocodes for buildings and facilities has been applied in all diploma projects.

In 2020, in the course design of a master's degree from specialization "Building constructions"

in the discipline "Special reinforced concrete structures", an analysis of seismic impacts of a water tank was introduced, including the hydrodynamic component of water (during an earthquake).

#### **4.4. Contributions** (scientific, scientifically applied, applied)

The scientific activity of Ch. Assistant Dr. Eng. Stanislav Tsvetkov is applied and scientifically applied. The main contributions can be formulated as the creation of computer models for description and analysis of complex systems with intense influence by separate subsystems, which can be associated with problems in the design (modeling, analysis and construction) of buildings and facilities and problems connect with the study and analysis of structural and architectural problems of buildings and facilities, including from seismic impacts. The longevity of the reinforced concrete structures and the possibility for application in different functional areas of: residential, agricultural and industrial construction are proved. The adequacy of the models and the obtained results are proven by quality and quantitative coincidences with many experimental data from real projects. All models refer to real existing buildings and facilities, show potential opportunities for wide practical applications in sites for reinforced concrete and building structures.

#### **5. Evaluation of the personal contribution for the candidate**

In 10 of the 28 scientific publications submitted for the competition, ch. Assistant Professor Dr. Eng. Stanislav Tsvetkov is sole author, in 17 reports is a co-author with one and in one report is a co-author with 3. It can be said that the candidate combines individual performances with teamwork skills.

#### **6. Critical remarks**

I have no such remarks.

#### **7. Personal impressions**

I do not know Mr. Tsvetkov personally. My impressions are from the submitted documents by the competition and our participations in the same conferences. He presents himself as a well-educated teacher and a in-depth scientist with serious scientific contributions and uses them for new and interesting ideas.

#### **8. Conclusion:**

Based on all of the above, I convinced recommend Ch. As. Dr. Stanislav Tsvetkov to be elected "Associate Professor" 5.7 "Architecture, Construction and Geodesy", scientific specialty "Building Structures (Reinforced Concrete Structures)" in the Department "Building Structures" at the Faculty of Civil Engineering of VSU "Lyuben Karavelov".

May 27, 2021

Member of the jury: .....

/ Prof. Dr. Eng. S. Todorov /