

## STATEMENT

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In accordance to a decision of Council of the Faculty of Public Health at the Medical University - Varna № 146 / 16.07.2019 and Order of the Rector of the Medical University - Varna № R-109-429 / 20.12.2019.

**Subject:** Procedure for the acquisition of the Scientific degree "Doctor of Medical Sciences" by Prof. Dr. Christian Angelova Romanova-Radeva, MD, PhD with Dissertation on the topic: "Protection of the population at flood risk in Varna region"

### **Short data on the professional development and qualification of the applicant**

Dr. Hristianna Romanova-Radeva completed her higher education in medicine at the Medical University of Varna in 1979. She worked as a district therapist in the town of Tolbukhin for nine months, after which in 1980 she won a competition for an Assistant Professor at the Medical University of Varna. Varna. She has consecutively occupied the academic positions of Senior (since 01.01.1987) and Chief Assistant Professor (since January 12, 1990). In 1985 she acquired a specialty in Sanitary-Medical Protection (equated to Disaster Medicine). She defended her doctoral dissertation in the specialty Disaster Medicine on the topic "Disaster Situations in Varna Region and Possible Hygienic and Epidemiological Problems" in 2006. On 18.02.2008 she was elected Associate Professor in Disaster Medicine and after three months for Head of the Sector "Disaster Medicine". Since March 30, 2017 she has been elected as Head of the Department of Disaster Medicine and Marine Medicine. From 11.2018 she is Full Professor of Disaster Medicine

Prof. Romanova-Radeva's professional biography proves her ever-expanding scientific interest in the field of disaster medical support management, as well as establishing herself as an experienced teacher with over 40 years of teaching experience.

In addition to being a scientist and lecturer, Prof. Dr. Romanova-Radeva is a member of the Expert Council in the specialty Disaster Medicine (Medicine of catastrophes) and a member of the National Council for Quality of Training and Qualification in the Emergency Medicine System, a former national consultant on Disaster Medicine. She has organized, chaired and participated in a number of international conferences dedicated not only to the Disaster Medical Support, but also to the problems of health insurance for the disabled. Participates in scientific juries for the degree of Doctor of Sciences, educational and scientific degree of Doctor, for the selection of various academic positions.

### **Relevance of the topic:**

The dissertation is devoted to a particularly important topic for our country - protection of the population in case of flooding. Floods are the most common of all occurring and occurring to be disasters, both globally and nationally. There are great number of research and publications on the subject, especially in the world literature. Most of the authors emphasize the need to assess the level of risk in a particular region, the geographical particularities of the area, climatic variations into the different seasons, the presence of risky natural and anthropogenic factors. Analysts are unanimous on the importance of preparedness for adequate response of the population in assessing the resilience of the flood region. In the medical community, it is increasingly imposing the conclusion that the severity of the effects of floods is directly

dependent on the willingness of the population and rescue teams (including medical teams) to plan and carry out appropriate actions in the event of a threat of or a flood. The long-term research of Prof. Dr. Romanova-Radeva is devoted to the study of these basic elements of population protection in Varna District. The conclusions of which have been synthesized in the presented scientific work.

**General characteristics of the dissertation:**

The dissertation contains 225 pages, includes 82 figures, 5 photographs, 9 tables and 10 appendices. The bibliography includes 289 titles, 116 of which are in Cyrillic and 173 in Latin.

The structure and presentation fully meet the requirements for scientific thesis. The dissertation is structured in the following main chapters - introduction - 2 pages, literature review - 28 pages, purpose, tasks and hypotheses - 2 pages, materials and methods - 9 pages, own studies - 116 pages, conclusion - 2 pages. , contributions - 2 pages, bibliography - 20 pages and applications 27 pages.

The literature review is in-depth and reflects consistently the conducted analyzes of available literature, both written and electronic, that address individual aspects of risk assessment and the flood protection measures undertaken. The different sections of the literature review synthesize the causes of the occurrence of floods in historical terms, which allows the dissertation to identify the groups of different consequences and to identify the necessary protective measures that need to be planned, resourced, studied, coordinated and implemented in order to reduce the negative effects on the life and health of the population. A separate subsection is dedicated to deriving the main groups of medical actions that need to be taken as a matter of urgency to save life-threatening conditions. Conducted targeted and in-depth analysis of the literary sources allows Prof. Romanova-Radeva to deduce and summarize the medical aspects of population protection that are not resolved worldwide at flood risk. Based on the summaries made, the main task of the dissertation is formulated:

"To study the risk of floods as a major problem for the population in the Republic of Bulgaria (and in particular in the Varna region), the awareness and preparation of the population for proper behavior during and after the flood, and to propose prevention for reducing the adverse effects on their health condition and material security. "

Seven objectives and 6 research hypotheses are formulated to achieve the scientific goal. The precise and clear definition of the scientific purpose, tasks and hypotheses, which responds to the majority of the challenges facing the medical community and the population in case of flood, is a testament to the doctor's scientific maturity and research precision.

The materials and methods selected are suitable for resolving the tasks set and achieving the scientific goal. Sociological methods were applied to collect the necessary primary information - a survey was conducted among the population from the areas at risk. The qualitative and quantitative methods used in the field of social and health sciences form a complex methodological approach for solving the important interdisciplinary research problem - the impact of floods on the health and material resources of the affected population.

The results of the Prof Romanova-Radeva own studies are clearly and understandably presented and illustrated. With a clear contribution to the practice of the Disaster Medical Support, a flood risk assessment model was developed and proposed in the first chapter of its own studies. The proposed model can thus be used for planning purposes not only for medical

operations but also for the planning of the whole complex of activities for the protection of the population at risk.

The studies and analyzes carried out in the following chapters undoubtedly prove the practical importance of the risk assessment model developed by Prof. Romanova - the main hazards for flood occurrence in the Varna region are identified and the necessary measures for reducing the level of risk are logically considered, as well as the necessary organization and coordination of rescue operations in the event of a flood. The depth of the studies conducted allows to the applicant to draw conclusions that not only reflect the actual picture of readiness but also identify areas that can be improved in order to increase the resilience of the Varna district to floods.

The third subchapter deals, in detail, with the flood-related risks to the life and health of the population at risk. Based on the proven phasing in the provision of medical assistance in floods and the strong dependence of the severity of the consequences on the actions taken by the population at risk, Prof Romanova-Radeva brings to the fore the need for coordination and focus of information exchange. The conclusion about the abilities of the established in Varna District medical forces and means to cope with the medical challenges of high-risk floods is again of practical value.

The fifth subchapter is presenting results of the large-scale survey of awareness and preparedness of adult Bulgarian and foreign nationals in Varna District. They demonstrate in a convincing way the need for additional training courses aimed not only at raising their awareness of the dangers and the related levels of risk of flooding in their place of residence, but also of courses that increase their readiness for first aid in the form of self and buddy aid. The results thus obtained serve as a basis for the development of a strategy for the prevention and protection of the population in case of floods, with which Prof Romanova-Radeva solves a fundamental theoretical problem. This decision is put into practice with the six recommendations, presented into the last seventh subchapter of the own research, to provide more effective assistance and support to the population in floods.

### **Contribution and importance of development to science and practice**

The dissertation presented to me is distinguished by the clear practical orientation of the goal pursued. The studies conducted are of particular value and offer easily applicable solutions to a topical, fundamental issue in the theory and practice of Disaster Medical Support Management - determining and reducing the level of medical risk in floods. I fully accept the summary conclusions presented in the dissertation. Proposed by Prof. Romanova-Radeva "Training Strategy for Increasing the Preparation for the Protection of the Population in Disasters (especially for Floods)" is in itself a completed scientific work of practical and scientific value, with original and contributory character. The practical leaflets for self-preparation and training, for the contents of a Travel bag for a flood or other disaster stored in a personal vehicle, a personal evacuation backpack (stored in the home), a personal emergency evacuation jacket, a protected product reserve, in the home, medical first aid kit for injuries and floods (at home, office and personal evacuation backpack) are of considerable practical value.

I fully accept the 24 contributions of this scientific work with a clear practical focus and support the recommendations made, which aim to improve the protection of the population not only in floods but also in other disasters.

Prof. Romanova-Radeva presents 12 real publications, which are in accordance with the requirements of the Rules for the development of the academic staff at the Varna Medical University. In four of the publications, the applicant is the first author, in the other four second and in four thirds co-author. All publications are related to the topics covered in the dissertation and present the results achieved at different stages of the development of scientific work.

#### **Applicant's personal involvement**

Based on the documents and publications presented to me, I am convinced that the dissertation work and the results and contributions received therein are the result of the DSs applicant's independent, in-depth research activities.

#### **Abstract**

The structure and content of the abstract submitted to me for review are in full compliance with the legal requirements. The purpose, tasks, materials and methods used to solve them are presented in a summarized form, as well as the results obtained, summaries and conclusions drawn and the resulting recommendations and scientific contributions and publications on the topic of the author.

#### **Critical comments and recommendations**

I have no substantive comments on the dissertation.

#### **CONCLUSION:**

The dissertation work of Prof. Dr. Christian Angelova Romanova-Radeva contains scientific and applied scientific results, which represent an original contribution to the medicine of disasters. The work meets all the requirements of the Law for the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the Regulations for the implementation of the LDASRB and the Rules for the Development of the Academic Staff in the Medical University - Varna for the acquisition of the scientific degree Doctor of Sciences. The presented materials and dissertation results fully correspond to the specific scientometric requirements of the Medical University - Varna.

Because of the above, I am convinced of my positive assessment of the research presented into the dissertation, abstract, achievements and contributions and I suggest to the Honorable Scientific Jury to award the degree of Doctor of Science to Prof. Dr. Hristianna Angelova Romanova-Radeva in the Doctoral Program Disaster Medicine.

29.01.2020  
Plovdiv

  
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