

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
ТЕРНОПІЛЬСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ  
ІМЕНІ І. Я. ГОРБАЧЕВСЬКОГО МОЗ УКРАЇНИ  
ГО «УКРАЇНСЬКЕ ТОВАРИСТВО ФІЗИЧНОЇ ТА  
РЕАБІЛІТАЦІЙНОЇ МЕДИЦИНИ»  
УПРАВЛІННЯ ОХОРОНИ ЗДОРОВ'Я ТЕРНОПІЛЬСЬКОЇ ОБЛАСНОЇ  
ДЕРЖАВНОЇ АДМІНІСТРАЦІЇ**

## **МАТЕРІАЛИ**

**Всеукраїнської науково-практичної конференції  
з міжнародною участю**

# **«ПЕРСПЕКТИВИ РОЗВИТКУ МЕДИЧНОЇ ТА ФІЗИЧНОЇ РЕАБІЛІТАЦІЇ»**

(17–18 вересня 2020 р.)

Тернопіль  
ТНМУ  
2020

у 64,3 % пацієнтів. Лікування починають тільки при виникненні болювого синдрому [3].

ПШ не відповідає виключно за біль, її також можна виявити приблизно в одного з десяти здорових людей [2].

До прикладу, німецький Об'єднаний федеральний комітет (G-BA), починаючи з 3 січня 2019 року, рекомендує УХТ для пацієнтів з плантарним фасциїтом за рахунок державного медичного страхування [3].

Залюбки поділюся власним 3-х літнім досвідом використання даної технології у приватній медичній практиці.

### **Література**

1. Ulrich Dreisilker: Enthesiopathies. Shock wave therapy in practice. Level 10.2010 – 136 с.
2. Экстракорпоральная ударно-волновая терапия в лечении травм и заболеваний опорно-двигательного аппарата / А. Ю. Васильев, Е. А. Егорова. – М.: Медицина, 2005 – 100 с.
3. Reimbursement: Use of ESWT in the indication of heel pain in plantar fasciitis now covered by statutory health insurance in Germany. ESWT blog by Storz Medical AG. Tuesday, 22 January 2019. <https://www.shockwaveportal.com/en/blog/entry/eswt-indication-heel-pain-plantar-fasciitis-covered-by-statutory-health-insurance-germany.html>

## **SOFTWARE-HARDWARE SYSTEM FOR MEASUREMENT THE EXITATION OF A HUMAN**

**Horoshko Viktoriia**

*National University “Yuri Kondratyuk Poltava Polytechnic”*

The formation of the modern society is marked by the rapid development of communication technologies and information. They are an integral part of the whole structure of society. The stability of the operation of these technologies largely determines the stability of its existence. Their activity generates a significant for modernity effect – the virtualization of social relations, which takes place against the backdrop of the globalization. An Integration of all mankind into a single supersystem is carried out with the active use of information and communication technologies. They serve as a condition for the formation of a global information civilization. Despite the fact that technological

forms accompany a person during all stages of his evolution, they have become the subject of special theoretical research relatively recent. From the standpoint of social and philosophical discourse, the phenomenon of technology began to be conceptually considered from the middle of XX century. Constructive understanding of technology provides an active-communication approach which is oriented towards interacting between man and technology. This approach allows us to consider the unity of the emerging socotran system, as it encompasses the dominant activity in their beginning, is in the form of communication [1, 2]. Relying on the indicated concept of the interaction of technology and human, the science of human health is actively developing with the dynamic development of scientific and technological progress. The health of each person is determined by the correlation of external and internal influences on her body [3, 4]. In recent years, the deterioration [5]. Automation of the educational process of higher educational institutions of Ukraine is directly related to the introduction of computer systems [6]. The volume of information is growing at a fast rate. The problem of preservation and purposeful formation of young people's health is extremely significant and relevant at this stage of society's development, since it is directly related to the problem of security and independence. For the present, the criterion of health is a certain level of functional state, which characterise its reserve capabilities and the quality of their regulation. The urgency of the study is determined by the fact that its evaluation is related not only to the ability of a person to work, but also with such physiological concepts as exhaustion, overstrain, tiredness, fatigue and recovery of the body.

The purpose of the study is to create a software-hardware system to determine the person's functional state and fatigue. The subject of the study is a software-hardware complex to determine human visual fatigue. The article discusses a new software-hardware complex for the determination of human fatigue, which provides high accuracy and flexibility for carrying out a diagnostic operation to determine human visual fatigue.

This complex is characterized by convenience and simplicity in its use, has the ability to remotely change the frequency-impulse and color-light characteristics, and consists of a simple electronic component base. Conclusions and findings: 1. The involvement of microcontroller technology with a wireless interface allows us to significantly simplify the component base of the electronic part of the developed complex and

expand the functionality of the tool for human fatigue diagnosis. 2. The involvement of mobile smart-tools contributes to the implementation of a remote control method and smoothness of the regulation of key parameters of the diagnostic process. 3. Accuracy measurement increased by 67 % compared with the previous model. 4. The proposed software makes this procedure accessible and easy for most diagnostic operators. The proposed complex for visual fatigue determination of a person has been tested and is recommended for industrial implementation. The declared technical solution can be used in the field of life safety, industrial sanitation, in particular, in the system for determining the level of fatigue of programmers, operators of personal computers, dispensary observation of the state of vision of schoolchildren, students, athletes.

### References

1. A.I. Horoshko, V.I. Horoshko “Problems of fatigue of modern youth”, Ecology plus, no. 5, pp. 6-13, 2011. (in Ukrainian).
2. I.A. Horoshko, Ye.Ya. Prasolov, A.I. Horoshko, V.I. Horoshko, A.A. Prasolov, Ya.A. Bocharova, “Method of determination of human tiredness”, Patent 70981 of Ukraine, IPC A61N5, owners I.A. Horoshko, Ye.Ya. Prasolov, N2012 00421; applied 16.01.2012, published 25.06.2012, Bulletin no 12 (in Ukrainian).
3. I.A. Horoshko, Ye.Ya. Prasolov, A.I. Horoshko, V.I. Horoshko, A.A. Prasolov, Ya.A. Bocharova, “Device for determining fatigue of a person”, Patent 70982 of Ukraine, IPC A61N5, owners I.A. Goroshko, Ye.Ya. Prasolov, N2012 00421; applied 16.01.2012, published 25.06.2012, Bulletin no. 12. (in Ukrainian).
4. O. Kuznecova, “Technology of quantitative assessment of the level of health and mental ability of students”, Transactions “Young sports science of Ukraine”, L.: NPF “Ukrainian Technologies”, issue 9, vol. 4, 132 p., 2005. (in Ukrainian).
5. N. Lebedinec, “Hygienic assessment of school anxiety of students as an indicator of the psychological atmosphere of the learning environment”, *Native School*, no. 9, 59, 2007.
6. G.M. Meshko, O.S. Meshko, “Emotional prosperity of students at modern school: desirable and real”, *Practical Psychology and Social Work*, no. 4, pp. 11-16, 2008. (in Ukrainian).