МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ`Я УКРАЇНИ
ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

МАТЕРІАЛИ

науково-практичної інтернет-конференції

РОЗВИТОК ПРИРОДНИЧИХ НАУК ЯК ОСНОВА НОВІТНІХ ДОСЯГНЕНЬ У МЕДИЦИНІ

м.Чернівці
27 листопада 2019 року

УДК 5-027.1:61(063)

Р 64

Медицина є прикладом інтеграції багатьох наук. Наукові дослідження у сучасній медицині на основі досягнень фізики, хімії, біології, інформатики та інших наук відкривають нові можливості для вивчення процесів, які відбуваються в живих організмах, та вимагають якісних змін у підготовці медиків. Науково-практична інтернет-конференція «**Розвиток природничих наук як основа новітніх досягнень у медицині**» покликана змінювати свідомость людей, характер їхньої діяльності та стимулювати зміни у підготовці медичних кадрів. Вміле застосування сучасних природничо-наукових досягнень є запорукою подальшого розвитку медицини як галузі знань.

Конференція присвячена висвітленню нових теоретичних і прикладних результатів у галузі природничих наук та інформаційних технологій, що є важливими для розвитку медицини та стимулювання взаємодії між науковцями природничих та медичних наук.

Розвиток природничих наук як основа новітніх досягнень у медицині: матеріали науково-практичної інтернет-конференції, м. Чернівці, 27 листопада 2019 р. / за ред. В. І. Федіва – Чернівці: БДМУ, 2019. – 390 с.

У збірнику подані матеріали науково-практичної інтернет-конференції «Розвиток природничих наук як основа новітніх досягнень у медицині». У тезах представлені результати теоретичних і експериментальних досліджень.

Матеріали подаються в авторській редакції. Відповідальність за достовірність інформації, правильність фактів, цитат та посилань несуть автори.

Для наукових та науково-педагогічних співробітників, викладачів закладів вищої освіти, аспірантів та студентів.

Рекомендовано до друку Вченою Радою ВДНЗ України «Буковинський державний медичний університет» (Протокол №4 від 28.11.2019 р.)

ISBN 978-966-697-840-3

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
MINISTRY OF HEALTH OF UKRAINE
HIGHER STATE EDUCATIONAL ESTABLISHMENT OF UKRAINE
"BUKOVINIAN STATE MEDICAL UNIVERSITY"

CONFERENCE PROCEEDINGS

DEVELOPMENT OF NATURAL SCIENCES AS A BASIS OF NEW ACHIEVEMENTS IN MEDICINE

Chernivtsi, Ukraine
November 27, 2019

UDC 5-027.1:61(063)

P 64

Medicine is an example of the integration of many sciences. Scientific research in modern medicine, based on the achievements of physics, chemistry, biology, computer science and other sciences, opens new opportunities for studying the processes occurring in living organisms and requires qualitative changes in the training of physicians. Scientific-practical Internet conference "**Development of natural sciences as the basis of the latest achievements in medicine**" aims to change the consciousness of people, the nature of their activity and stimulate changes in the training of medical personnel. The skillful application of modern scientific achievements is the key to the further development of medicine as a field of knowledge.

The conference is dedicated to the coverage of new theoretical and applied results in the field of natural sciences and information technologies, which are important for the development of medicine and stimulating interaction between scientists of natural and medical sciences.

Development of Natural Sciences as a Basis of New Achievements in Medicine: Conference Proceedings, November, 27, 2019, Chernivtsi, Ukraine/ edited by V.Fediv – Chernivtsi,BSMU, 2019. – 390 p.

The proceeding contains materials of a scientific and practical Internet conference "Development of the natural sciences as the basis of the latest achievements in medicine" which present the results of theoretical and experimental studies.

Papers are submitted by the author editing. The authors are responsible for the accuracy of the information, the correctness of the facts, quotations and references.

For scientific and scientific-pedagogical staff, teachers of higher education institutions, graduate students and students.

ISBN 978-966-697-840-3

Історія становлення медицини у контексті розвитку природничих наук

UDC: 53(092)(477)

MYKOLA PYLCHYKOV'S SCIENTIFIC AND PEDAGOGICAL ACHIEVEMENTS

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Abstract. The article examines the life path, scientific and pedagogical achievements of Mykola Pylchykov - a famous Ukrainian inventor and scientist with a world name, undeservedly forgotten and revived in the memory of modern Ukrainian science.

Key words: scientific research, invention, pedagogical achievements, device.

Many names of Ukrainian scientists we, Ukrainians, have heard somewhere, but we cannot mention what they refer to, or do not know at all. Therefore, it is necessary to revive the memory of the contribution of scientists who are our compatriots to the world science. Let us recall that we know about the prominent Ukrainian physicist, experimenter and inventor Mykola Pylchykov, called "Ukrainian Edison" in the newspapers.

Mykola Pylchykov was born in Poltava. His father taught different languages and laid to son the initial knowledge and love of learning, and later Mykola Pylchykov was fluent in seven languages. Graduating from gymnasium, where his desire and talent for sciences distinguished the young man, he entered the Kharkov University to the Faculty of Physics and Mathematics. Mykola made his first instrument during student years. It was a device for the study of sound vibrations graphically - a phonograph, which was even ahead of the Edison phonograph [1]. At this period, Pylchykov's scientific work is devoted to the method of refractometry, which is a method of quantitative and structural analysis to find physicochemical parameters of a substance, in medicine is a method to determine the concentration of salts, protein content in the blood, refractive index. According to a certain index of refraction of a liquid when changing of content of these substances in it receive information, indicating the influence of certain processes in the human body, makes it possible to diagnose the disease.

Pylchykov obtained the Big Silver Medal of the Russian Geographical Society for the research of the Kursk magnetic anomaly. Subsequently, he successfully defended his dissertation on "Materials on the subject of lunar anomalies of terrestrial magnetism" and received the title of Master of Physics and Physical Geography.

During his internship in France, at the Paris Magnetic Observatory, the young inventor was able to correct the structural errors of the seismograph and gained a broad knowledge in the scientific world. He trained in the laboratories of famous physicists of his time, for example, the laboratory of the Nobel Prize winner for inventing the method of color photography - G. Lippman. At the same time conducts research on electrochemistry, is engaged in the development of opto-galvanic method of studying electrolysis. He reports on his research at international congresses. For his research, he was a membership of the French Physical Society and the International Society of Electricians.

Being returning to Kharkov, he became a professor at Kharkiv University. Working there, he conducts research on light polarization, meteorology, creates new devices, like inclinator and single-strand seismograph, and establishes a meteorological station and a magnetic and meteorological department at the Department of Physics. The pedagogical activity of the professor is not an obstacle to his fruitful scientific work. He conducts fruitful research activities as a member and scientific secretary of the Society of Physical and Chemical Sciences at the university; he makes reports, starts printing works of the society [2].

Since 1894, the professor has been working at the Imperial Novorossiysk University of Odessa (now Odessa National Mechnikov University) as an extraordinary professor. During this time, Mykola Pylchykov read more than 10 different courses for students of physics, mathematics and medical faculties. Pylchykov was a wonderful lecturer; the students came to his classes with great pleasure. He devoted a lot of time to students, assisted them financially when it was possible.

After X-rays discovery in 1896, Pylchykov, using Puluj's tube, discovered the unknown properties of X-rays, proved their appearance by bombardment, refined the Puluj tube by applying a concave anticathode in it, and this tube is becoming known as the focus tube. Interesting is the fact, that after the lecture about the properties of X-rays and the demonstration of X-rays in the filled auditorium of the university, the students hugged their teacher.

Pylchykov continues public lectures. Professor discovers the phenomenon, which he called electrophotography, the fixation of objects image by extension on the metal plates of the relief optically-galvanic way, i.e. discover the possibility of electronic photography [3]. Pylchykov experimentally and theoretically investigates the phenomenon of radioactivity, did research on

cryogenic physics, designed a radio protector - a device for tuning to a certain wavelength and protecting devices (telephones, beacons, semaphores, guns, mines) from the action of electromagnetic waves of external origin, which was used on ships of the Black Sea Fleet. One million francs were offered for the Pylchykov scheme, but he refused.

Being returning from Odessa to Kharkov, the professor continues his research. The Physical Laboratory, founded by Mykola Pylchykov at Kharkiv Institute of Technology, became the most equipped among the educational establishment of that time. He organizes the publication of the newspaper "Izvestiya Kharkov Institute of Technology", works as its chief editor.

It is necessary to pay attention to the active public position of Mykola Pylchykov, his struggle for the eradication of bureaucracy in the education and upbringing of young people, in the organization of the educational process - for the democratization of the higher school, which gave him the name of "extremely left professor".

Mykola Pylchykov's scientific heritage is almost 100 works, including a textbook "Course in physics", 25 original instruments and inventions of world importance. He is a pioneer in the study of atmospheric optics, electrochemistry, radiology, radio engineering and other key areas of science, contributing to further scientific and technological progress.

Death in mysterious circumstances, still undisclosed, has cut short the life of a scientist of world scale. How many more interesting discoveries and original devices could Pylchykov create?! One of the obituaries states: “With the death of M.D. Pylchykov's scientific world has lost a great deal of scientific power". The funds that remained after Pylchykov's death, he had in his lifetime bequeathed to awards to students-technologists for the best diploma works [4].

It is sad that we know little about prominent Ukrainian scientists and their creative and scientific activities, but we are eager to learn more, and this is the main point. Let us recreate the forgotten names, because this is our history, and we need to know the history of our people, our country.

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