

VOLUME 100 OF THE ANNUAL  
OF "ST. KLIMENT OHRIDSKI" UNIVERSITY OF SOFIA,  
FACULTY OF PHYSICS

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Dear reader,

This **jubilee** edition is an occasion to go back through the years and to recall how this journal has been founded.

On October, 1<sup>st</sup>, 1888 **the oldest higher education school in Bulgaria**, the University of Sofia "St. Kliment Ohridski" was established, with 4 regular and 3 associate lecturers and 49 students. Opened as a higher pedagogical course, in a few months it has been renamed to Higher School, and since 1904 – to University. Its first rector was the well-known Bulgarian linguist Alexander Teodorov-Balan.

The University of Sofia keeps the democratic traditions in the scope of education and culture of the Bulgarian Renaissance's age and establishes itself as the main educational, scientific and cultural centre in Bulgaria after its liberation. During the initial years of its existence it had three faculties: History and Philology (since 1888), Physics and Mathematics (since 1889), and Law (since 1892). The subjects studied were history and geography, Slavic philology and literature, philosophy and pedagogies, mathematics and physics, chemistry, natural sciences, law. The University of Sofia developed as the principal scientific institution in the country. The teaching occupation of the lecturers was combined with productive scientific research, which enriched the nation's science with significant contributions. They became public possession via the university scientific editions "Annual of the Sofia University", "University Library" etc.

The Annual of the "St. Kliment Ohridski" University of Sofia is the oldest

Bulgarian journal, founded in 1904. **The editor's committee is composed of representatives of the three faculties: Benio Tzonev (History and Philology), Georgi Kolushki (Physics and Mathematics), and Stephan Kirov (Law).** Here is what we can read in the preface of Volume 1 of the Annual:

„**The lecturers of the Higher School of Sofia, now University, desired to have their own scientific journal long time ago, as it is convenient for any Academic body, even if that nice desire had been postponed from one year to another because of budgetary reasons, and remained unfulfilled. Scarcely had been granted the awaited credit for the past first university year (1904/1905), and our first university edition, named “Annual” could start its life. The necessary Rules were prepared and the particular editor's committee was chosen, in which representatives of the three faculties took part.**

The name “Annual” was given in order to connect the official and the scientific parts. But as one can see in its first book, the “Annual” contains incomparably more scientific works, than official and even the printed in it scientific works themselves do not have any connection to the annual life of the University. That is why the scientific part, which will become probably even larger with time, could be completely separated from the official part and will be edited in separate issues. Offering to the scientific world, here and abroad, these modest contributions of the lecturing body in the first Bulgarian University, we hope to improve further this edition with the time, outside as well as inside, in order to be able to bring it gradually to the degree of similar academic editions. (Sofia, 1.VII.1905)”

The journal was initially composed of two divisions: Official division and Scientific division. The Official division always contains the Annual report of the University for the past academic year; information for the academic staff, number of students, types of lectures, dissertations, defended report of the Association for support of poor students etc. Inside could be found information about the whole colourful University life, for example about the University crisis endured in 1907/1908, **about the ventures and the waging fight for restitution of the University.** The scientific division contains scientific publications from the three faculties.

In 1908/1909 **the Annual was divided in two separate issues – Official Division and issue of the Faculty of Physics and Mathematics.** In 1963 the Faculty of Physics and Mathematics of the Sofia University “St. Kliment Ohridski” was divided in two faculties: Faculty of Mathematics and Faculty of Physics and in 1963/1964 the first booklet of the Annual specialized only in Physics was issued. The Volume issued by the Faculty of Physics is dedicated to scientific studies of theoretical and experimental physics and it is referred by INIS. In the Annual are published significant and original results

of Bulgarian and foreign authors obtained in the Faculty or with participation of Faculty researchers. Its topics spread over traditional fields of the physics, such as atomic and nuclear physics, astronomy, radio electronics, quantum electronics, solid state and condensed matter physics, semiconductor physics, spectroscopy, nuclear technique, meteorology, geophysics, medical physics, methods of physics teaching.

In the Annual of the Sofia University are published articles of many of our colleagues-physicists, deans of the university education and well known scientists. One of them is **Prof. Elissaveta Karamihailova** – specialist in the field of the nuclear physics and natural radioactivity, the founder of the department “Atomic Physics”, the first lady of the Bulgarian Physics (for the period of 1888 to 1939 there is only one woman scientist at the University of Sofia – the physicist Elissaveta Karamihailova)\*. Some other authors are: **Prof. Alexander Christov** – specialist in the field of the surface phenomena in liquids, **Acad. Lubomir Krastanov** – the founder of the meteorology in Bulgaria, **Corresp. Member of BAS Georgi Manev** – the founder of the department “Theoretical physics”, suggests a potential, explaining phenomena in the Solar system with the same precision as the theory of relativity, but remaining within the framework of the classical mechanics, **Acad. Asen Datzev** – theory of heat conductivity and the physical identity of quantum mechanics, **Acad. Hristo Hristov** – theoretical physics, **Acad. Emil Djakov** – electronics, **Acad. Nikola Bonev** – theory of the birth of the Universe, **Acad. Georgi Nadjakov** – findings in the field of the photoelectrons, discoverer of the photoelectrets, who put the basics of the solid state physics, **Acad. Milko Borisov** – solid state physics, acoustical optics and electronics and many other famous scientists.

We offer to your attention a copy of the article of Georgi Nadjakov “On a new way of the permanent polarization of dielectrics. A new type of electrets:

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\* Her experiments preceded the discoveries of the neutron and the fission of uranium. The Bulgarian Elissaveta Karamihailova and the German Marietta Blau made experiments with polonium in the Radium Institute, Vienna, and they observed strongly penetrating neutral radiation of unknown origin. Actually, it was a flow of neutrons but like two other groups (Irene and Frederic Joliot-Curie in France and Bothe and Becker in Germany) working on the same phenomena they thought it was high energy gamma-radiation. Instead of reporting immediately the discovery, they lost precious time to interpret the results ... and they missed the Nobel Prize in 1939 for the discovery of neutron. In 1935 she made experiments with neutrons and discovered induced radioactivity of 15 minutes half-life time after irradiation of uranium with neutrons. She needed money for more experiments and radiochemical analysis to show like the Germans Hahn and Strassman that this activity originates from one of the fission fragments of uranium. So, a second time she missed the Nobel Prize, this time for the discovery of nuclear fission.

photoelectrets”, published in the Annual of University of Sofia, Faculty of Physics and Mathematics, Vol. XXXIII, Book 1., pages 409–420 (1936/1937), which presents the author’s ideas and the experimental results, leading to the first Bulgarian discovery – the photoelectrets.

Let us wish, that the Annual of the Sofia University, Faculty of Physics, continues to present our research results in the scientific society, here and abroad.