

УДК: 54(477.87)(092)

DOI: [https://doi.org/10.59694/ped\\_sciences.2025.15.081-085](https://doi.org/10.59694/ped_sciences.2025.15.081-085)

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## LIFE AND SCIENTIFIC-PEDAGOGICAL CONTRIBUTIONS OF ISTVÁN BUCZKÓ

**КОЛОЖВАРІ Степан Васильович, ГАДНАДЬ Іштван Іштванович, КОГУТ Ержебет Імріївна. ЖИТТЯ ТА НАУКОВО-ПЕДАГОГІЧНИЙ ВНЕСОК ІШТВАНА БУЧКО**

У цьому дослідженні представлено науково-педагогічну діяльність доктора Іштвана Бучко (1930–2020), з особливим акцентом на його значну роль у вищій освіті та науковій освіті в Закарпатському регіоні. Маючи освіту хіміка, він займався різноманітними дослідницькими інтересами в галузі фотохімії та аналізу навколишнього середовища. Як педагог, він протягом кількох десятиліть сприяв підвищенню кваліфікації студентів-хіміків та біологів у Закарпатському угорському коледжі імені Ференца Ракоці II та Ужгородському державному університеті. Внесок Іштвана Бучко був визначним не лише в науковому та освітньому плані, але й у сприянні розвитку майбутніх поколінь угорських науковців на Закарпатті. Він відіграв ключову роль у підтримці високого рівня академічної наступності для угорської меншини в регіоні.

**Ключові слова:** Іштван Бучко, хімія, біохімія, історія освіти, Закарпаття.

**KOLOZHVARI Stepan Vasilyevich, GADNAD Istvan Istvanovich, KOHUT Erzhebet Imrievna. LIFE AND SCIENTIFIC-PEDAGOGICAL CONTRIBUTIONS OF ISTVÁN BUCZKÓ**

This study presents the scientific and pedagogical work of Dr. István Buczkó (1930–2020), with particular emphasis on his significant role in higher education and science education in the Transcarpathian region. Trained as a chemist, he pursued diverse research interests in photochemistry and environmental analysis. As an educator, he contributed for several decades to the advanced training of chemistry and biology students at both the Ferenc Rákóczi II Transcarpathian Hungarian College and Uzhhorod State University. István Buczkó's contributions were remarkable not only in scientific and educational terms, but also in fostering the development of future generations of Hungarian scholars in Transcarpathia. He played a key role in sustaining a high standard of academic continuity for the Hungarian minority in the region.

Buczkó played a pivotal role in the educational, scientific, and infrastructural development of the region, often at considerable personal cost. Persevering in the rigid socio-political environment of the Soviet Union demanded an extraordinary capacity to navigate the scientific world with both tact and conviction, a quality that reflected not only his inner strength, but also the rich cultural and intellectual foundation upon which he built his life.

To create lasting value amid historical turbulence is always more challenging than doing so under stable circumstances. Yet it was precisely in such challenging conditions that István Buczkó forged his professional and personal path. One of the most symbolic gestures of his life, donating his own land to the college in Berehove during his final years, eloquently encapsulates his enduring commitment to science and to the collective future. This act represents not only his personal

*generosity but also a lasting, tangible legacy: a place where future generations of Transcarpathians may learn, conduct research, and form enduring bonds with one another.*

**Keywords:** *István Buczkó, chemistry, biochemistry, history of education, Transcarpathia.*

**Formulation and justification of the relevance of the problem.** The life trajectories of distinguished scholars, recognized in both domestic and international academic circles, serve as vital links between past and present, offering essential points of reference for shaping the future. Their examples provide insight into the historical epochs and value systems that shaped their professional and public engagement, values that continue to exert influence on contemporary society. Their biographies reveal the enduring historical processes that continue to inform our present.

**Analysis of recent research and publications.** Studying scientific literature proves that the fields of chemistry and biology in Ukraine were studied by scientists, including: A. K. Babka, M. A. Bunge, A. M. Holuba, Y. K. Delimarsky, M. Y. Kornilova, V. O. Kistyakivsky, O. V. Kirsanova, I. V. Pyatnytskyi and others. The life and creative path of these scientists has been studied in various publications. We set the goal of studying the contribution of Istvan Buchko to the development of photochemistry and environmental analysis to the scientific treasury of Transcarpathia.

**The purpose of the article is** – research into the scientific achievements of Istvan Buchko and his contribution to the development of the Hungarian scientific and educational sector and Transcarpathia.

**Presentation of the main research material.** Twentieth-century Central and Eastern Europe produced a particularly rich array of such formative and exemplary lives, especially among those who lived and worked as members of ethnic minorities situated at the intersection of political authority and national identity. These individuals often sought to harmonize the pursuit of scientific excellence with a commitment to serving their communities. Dr István Buczkó (1930–2020) stands as a notable example of this endeavour. As a prominent representative of the Hungarian scientific and educational elite in Transcarpathia, he devoted decades of his life to applying his expertise in the natural sciences not only for personal advancement but also in service to the Hungarian minority of the region. As a chemist, department head, and researcher, he played a significant role in safeguarding the integrity and continuity of higher education and scientific research in Transcarpathia, often in the face of shifting and unstable political and social conditions. His legacy transcends his own

discipline, as his former students continue to shape the intellectual life of local communities.

This study seeks to provide a comprehensive overview of István Buczkó's life, scientific contributions, and pedagogical impact, with particular attention to his enduring efforts to create lasting value both within Transcarpathia and the broader scholarly world. His rich and eventful biography offers a meaningful framework for understanding the breadth and significance of his influence.

The twentieth century posed unique challenges for the Hungarian minority in Transcarpathia. The era of integration into the Soviet Union was marked by the marginalization of linguistic and national identity, especially in the spheres of education and culture.

Much of the information presented in this study is based on personal conversations with the late Dr. István Buczkó, as well as posthumously published biographical accounts. In presenting his life and work, this article also offers a broader perspective on the intellectual history of the Hungarian community in Transcarpathia during the twentieth century.

István Buczkó was born on June 3, 1930, in Mukachevo, into a Hungarian intellectual family. His father served as a school principal and authored a mathematics textbook for schoolchildren. Buczkó's formative years were marked by the complex political transformations of Transcarpathia: the Czechoslovak period, the turmoil of World War II, the brief administration of Podkarpatska Rus', the Hungarian governance following the Second Vienna Award, his active research career under the Soviet regime, and finally life in independent Ukraine after 1991.

He spent most of his early years in Királyháza, Vynohradiv, and Mukachevo – then a distinctly multiethnic town. His formal education began in the classical civic school tradition, which placed a strong emphasis on a broad and humanistic cultural foundation. He completed his secondary education in 1948 at Secondary School No. 1 in Mukachevo. That same year, he was admitted to the Faculty of Chemistry at Uzhhorod State University, where he earned his degree in 1953. While still a university student, he began teaching physics at an evening secondary school in Uzhhorod, demonstrating his early commitment to pedagogy.

Buczkó's intellectual upbringing and the culturally diverse environment of twentieth-century Transcarpathia shaped him into a multilingual scholar with a broad and inclusive

worldview. His cheerful and engaging personality, coupled with a natural aptitude for languages, enabled him, as a native speaker of Hungarian, to communicate fluently in English, German, Ukrainian, Czech, and Yiddish. Moreover, his civic school education encompassed Latin and Ancient Greek, further attesting to the depth of his classical scholarly formation.

A pivotal milestone in István Buczkó's academic trajectory was his admission to the Department of Photochemistry at the L. V. Pisarzhevsky Institute of Physical Chemistry, part of the Academy of Sciences of the Ukrainian SSR. Following the completion of his university studies, he pursued postgraduate education there, subsequently working as an engineer. In November 1957, he was appointed as a research associate in the same department. In 1962, he successfully defended his Candidate of Sciences dissertation, entitled *Dark and Photochemical Interactions of Chlorophyll with Iron Salts* (Темнові та фотохімічні взаємодії хлорофілу з солями заліза).

The political and social context of his student years and early academic career presented both limitations and demands. It required adaptability, the acquisition of foreign language skills, and considerable perseverance. Buczkó's professional journey began during the formative years of the Soviet higher education system in Transcarpathia, a period marked by rigid ideological oversight. Despite these challenges, he succeeded in establishing a firm scientific foundation, which would later support his significant contributions to academic program development and institutional leadership.

Motivated by a deep commitment to enriching the intellectual life of his native region, Buczkó applied for and was awarded a position as assistant professor in the Department of General and Inorganic Chemistry at Uzhhorod State University in 1963. That same year, he was nominated for the title of associate professor. His academic career remained closely connected to Uzhhorod State University and, later, to the Ferenc Rakoczi II Transcarpathian Hungarian College of Higher Education in Berehove. With only brief interruptions, he served as an educator, researcher, and department head for over five decades.

Shortly after returning to Transcarpathia, Buczkó was selected as part of a delegation of Soviet scientists to participate in an international academic mission to Africa. Together with his wife, also a chemist, he was posted to Ghana, where he held the position of visiting professor at the University of Cape Coast from 1964 to 1966.

Upon his return, he was appointed Head of the Department of General and Inorganic Chemistry at Uzhhorod State University in

September 1966. That same year, he launched a new academic programme in inorganic chemistry, and in 1968 he played a key role in establishing the department's doctoral school. Over time, his research interests shifted toward applied photochemistry, with a particular emphasis on its biochemical and environmental dimensions.

His contributions extended beyond the academic sphere. From 1973 to 1975, he served as Deputy Director of the Scientific and Technical Information Centre at the House of Soviet Culture and Science in Budapest, engaging in both scientific and cultural organisational work.

Following his return from Hungary in 1975, he resumed his leadership at the Department of General and Inorganic Chemistry at Uzhhorod State University. From September 1995 until his retirement, he was employed as a scientific researcher at the Research Sector of Uzhhorod National University.

In 2007, Buczkó joined the Faculty of Biology at the Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education. From September 2011 to January 2020, he served as Head of the Department of Biology and Chemistry. Over his thirteen-year tenure, he played an active role in organizing international conferences, preparing scientific publications, supporting the institutional accreditation process, and supervising student theses.

István Buczkó's was distinguished as an educator. His lectures were not only professionally rich in content but also exemplary in their didactic clarity and pedagogical quality. According to testimonies from both colleagues and students, he was widely respected for his strong personal integrity, broad life experience, approachability, and his patient, supportive attitude toward others.

In the 1970s and 1980s, he participated in several environmental chemistry projects coordinated by the Academy of Sciences of the Soviet Union. His name is associated with numerous environmental impact assessments, as well as methodological publications outlining accessible procedures for detecting environmental pollutants. He authored over 150 scholarly articles, and contributed to a wide range of textbooks, lecture notes, and teaching materials, primarily in the fields of physical and inorganic chemistry, and laboratory methodology.

He was a member of the Scientific Council for Inorganic Chemistry of the Academy of Sciences of the Soviet Union, as well as of several scientific councils of the Ukrainian Academy of Sciences, including those on Inorganic Chemistry, Chemical Kinetics and

Structure, Surface Chemistry, and the Technology for the Modification of Dispersed Oxides. He also served on the Scientific and Methodological Council for Chemistry of the Ministry of Higher Education of Ukraine, the Scientific and Technical Council on *Ecological Chemical Problems*, and led the Transcarpathian Regional Branch of the Ukrainian Chemical Society. His decades-long, high-level scientific work was officially recognized by the Ministry of Education and Science of Ukraine and by the National Academy of Sciences of Ukraine [1, 4].

In addition to his work in Ukraine, István Buczkó was elected an external member of the Hungarian Academy of Sciences and served actively on the Hungarian Academic Council of Transcarpathia. In 2018, he was honoured with a distinction in recognition of his outstanding achievements in the natural sciences and his contributions to scientific organization. He played a pivotal role in initiating several international scientific cooperation programs aimed at harmonizing regional research efforts in the natural sciences. As an external public body member of the Hungarian Academy of Sciences, he was also instrumental in fostering partnerships between Transcarpathian researchers and scientific institutions in Hungary.

István Buczkó's scientific and educational legacy is significant not only for its scholarly accomplishments but also for his exceptional ability to build bridges, between science and education, and across linguistic and cultural communities. His career stands as a compelling example of how lasting contributions can be achieved even in historically challenging contexts, through perseverance, professional excellence, and a deep commitment to community service.

His life's work was also marked by personal and familial sacrifices. One of the most notable expressions of his civic engagement was the donation of a plot of land, formerly the site of his family's rural home in the village of Hárs, near the Róna Mountains, to the Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education. This generous act made possible the establishment of a modern field training and research centre. The newly constructed three-story facility primarily serves the practical training needs of students in geography, biology, chemistry, and tourism. In the future, it may also host summer camps, talent development programmes, and outdoor educational activities for young learners from across Transcarpathia [2, 3].

Thus, István Buczkó's legacy endures not only in intellectual and academic domains, but also in a concrete, physical form, continuing to

enrich higher education and community development in Transcarpathia.

**Conclusions and prospects for further exploration of the direction.** The life's work of István Buczkó stands as a remarkable testament to the enduring value that can be created through scientific dedication, civic responsibility, and a deep-rooted cultural identity. His legacy extends far beyond personal academic accomplishments, encompassing his contributions as a teacher, scientific organizer, and public intellectual. To navigate and flourish within the shifting political landscape of twentieth-century Transcarpathia required not only intellectual excellence but also profound moral resilience.

In addition to his extensive research in various branches of chemistry and environmental analysis, Buczkó consistently embraced interdisciplinary approaches. His achievements in photochemistry and environmental chemistry reflect a perspective that regards scientific inquiry not as an isolated pursuit, but as a tool for addressing real-world and community-centred challenges. His educational activities were equally central to his legacy. The cultivation of younger generations of intellectuals was always of paramount importance to him. During his decades of service at Uzhhorod State University and the Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education, he transmitted not only technical expertise but also the humanistic and ethical values that continue to shape the lives and work of his former students.

Buczkó played a pivotal role in the educational, scientific, and infrastructural development of the region, often at considerable personal cost. Persevering in the rigid socio-political environment of the Soviet Union demanded an extraordinary capacity to navigate the scientific world with both tact and conviction, a quality that reflected not only his inner strength, but also the rich cultural and intellectual foundation upon which he built his life.

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Стаття надійшла до редакції 03.08.2025 р.

УДК 378.147

DOI: [https://doi.org/10.59694/ped\\_sciences.2025.15.085-090](https://doi.org/10.59694/ped_sciences.2025.15.085-090)

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## АКСІОЛОГІЧНІ ЗАСАДИ ПРОФЕСІЙНОЇ ПІДГОТОВКИ МАЙБУТНІХ УЧИТЕЛІВ МУЗИЧНОГО МИСТЕЦТВА ТА ХОРЕОГРАФІЇ

**КОРОТКЕВИЧ Ксенія Єгорівна. АКСІОЛОГІЧНІ ЗАСАДИ ПРОФЕСІЙНОЇ ПІДГОТОВКИ МАЙБУТНІХ УЧИТЕЛІВ МУЗИЧНОГО МИСТЕЦТВА ТА ХОРЕОГРАФІЇ**

У статті окреслено ціннісні пріоритети професійної підготовки майбутніх учителів музичного мистецтва та хореографії в умовах воєнного стану в Україні. Визначено сутність цінностей людини та обґрунтовано їх роль у становленні особистості майбутнього вчителя мистецьких дисциплін.