

## PROFESSOR STANISŁAW BERGER – THE JUBILEE OF 100TH BIRTHDAY

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### ABSTRACT

Professor Stanisław Berger – Polish scientist, creator of human nutrition science, international authority, excellent lecturer, and consistent organizer of the nutritional scientific community - celebrates his 100th birthday. He was born on September 13, 1923. The history of Professor Stanisław Berger's long life is presented in this jubilee article.

**Key words:** *Professor Stanisław Berger, scientist, creator of human nutrition, Warsaw University of Life Sciences (SGGW), National Institute of Public Health (PZH), Poland*



Photo 1. Professor dr hab., dr h.c. Stanisław Berger in the academic robes of the Warsaw University of Life Sciences (SGGW). (Photo from the collection of SGGW)

*Polish scientist, creator of human nutrition science, international authority, excellent lecturer, and consistent organizer of the nutritional scientific community, as well as a science disseminator.*

The history of the long life of Professor Stanisław Berger - celebrating his 100th birthday - is situated across two centuries, encompassing World War II, challenging post-war times, as well as difficult political and economic transitions culminating in Poland's accession to the European Union. It is also the story of the development of nutritional science - a field in which the Professor was a pioneer in Poland.

Professor Stanisław Berger was born on September 13, 1923, in Lublin, into an intelligentsia family with patriotic and independence traditions. His father was a lawyer and a professor at the Catholic University of Lublin, while his mother was a teacher. He completed his primary education in Lublin, but the outbreak of World War II plans changed for the young Stanisław Berger. Despite the difficulties caused by the occupation, he clandestinely passed the so-called "small matriculation" exam and subsequently, in 1943, obtained the title of an agricultural technician from a Polish agricultural school in Czernichów near Krakow.

After the outbreak of the Warsaw Uprising, he set out to aid the fighting in Warsaw, but he was intercepted by General Zygmunt Berling's units and drafted into an infantry regiment. With this regiment,

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he headed westward alongside the Soviet offensive in 1945. In April 1945, he was severely wounded in battle near Bautzen, and, as he himself recalls, was miraculously saved in a local hospital. A few months later, not fully recovered from his injuries, he managed to reach Lublin and enroll in studies at the Faculty of Agriculture of the newly established Maria Curie-Skłodowska University (UMCS). He completed his agronomic studies, earning the title of a professional agricultural engineer and subsequently a master's degree in agronomic sciences in 1948.

### **The academic and scientific career of Professor Stanisław Berger and scientific achievements**

During his studies, Professor Berger engaged in academic and teaching activities as an assistant at the Department of Animal Physiology and Nutrition at the Faculty of Agriculture at Maria Curie-Skłodowska University in Lublin.

In 1949, he began a postgraduate specialized training in the Department of Nutrition Hygiene at the National Institute of Hygiene (today: National Institute of Public Health - National Institute of Hygiene), under the supervision of Professor Dr. Aleksander Szczygieł. In the years 1950-1957, he worked as a research assistant, assistant professor, and finally head of the Laboratory of Nutrition Physiology.

At the National Institute of Hygiene (PZH) in Warsaw he was engaged in research on the dietary habits and nutritional status of children and youths. He conducted studies on vitamin A and carotenoids, publishing a quantitative method for determining these compounds in plant products. He also conducted *in vivo* studies on the bioavailability and biological activity of provitamin A. As a talented young scientist specializing in the physicochemical and biological analysis of vitamin A and carotenoids, he received the Minister of Health's award in 1952 for his research.

The centenary jubilee of Professor Stanisław Berger's birth is an opportunity to recall his association with the National Institute of Hygiene, which remains very close due to his extended collaboration with the scientific journal "Roczniki Państwowego Zakładu Higieny" (Annals of the National Institute of Hygiene), which has been continuously published since 1950 until today. From 1954 to 1955, he served as the secretary of the editorial board, and in 1984, he became a member of the editorial committee of the journal as the editor of the Nutrition Hygiene Section. In addition to reviewing articles on nutritional topics, Professor Berger prepared summaries of scientific papers from "The British Journal of Nutrition". Due to limited and difficult access to foreign scientific literature, these abstracts, published from 1984 to 1988 in "Roczniki Państwowego Zakładu Higieny", constituted an invaluable source of knowledge about research and

scientific worldwide progress for scientists in Poland. After the journal was converted to an English language version in 2013, Professor Berger became a member of the International Scientific Committee. He currently holds an Honorary Membership in this Committee.

Regardless of work at the National Institute of Hygiene, Professor Stanisław Berger was also a senior assistant at the Department of Botany and Technical Microbiology in the Faculty of Chemistry at the Warsaw University of Technology from 1950 to 1952. In 1951, based on his doctoral thesis entitled "Seasonal Variations in the Content of Vitamin A and Carotene in Cow's Milk," he obtained his PhD at the Maria Curie-Skłodowska University (UMCS) in Lublin. In 1954, he was appointed an associate professor at the Department of Animal Nutrition at the Warsaw University of Life Sciences (SGGW). In 1957, as a young and promising scientist still working at the National Institute of Hygiene, he was awarded a one-year research fellowship from the Rockefeller Foundation to study at Cornell University in the United States. His work at the National Institute of Hygiene and the international collaboration significantly influenced his further academic career.

After returning from the fellowship, Stanisław Berger assumed the leadership of the newly established Department of Human Nutrition Technology and Hygiene at the Faculty of Agriculture at the Warsaw University of Life Sciences (SGGW). He was awarded the academic title of associate professor in 1961 based on his habilitation thesis entitled "Assessment of Carotene as Provitamin A based on its absorbability and conversion to xerophthol under various experimental conditions". In 1966, he attained the title of associate professor in agricultural sciences, and in 1976, he was granted the title of full professor.

A particularly significant phase of Stanisław Berger's professional career unfolded at SGGW during the years 1961-1962. During this time, along with Professor Eugeniusz Pijanowski, he played a key role in the establishment of the Faculty of Agricultural and Food Technology. He undertook the role of secretary of the newly formed Faculty Council and Vice-Dean from 1965 to 1966.

Many reviewers evaluating Professor Berger's scientific and educational contributions emphasize his impact on the field of human nutrition, including nutritional physiology, the role of protein, vitamin A and its precursors. They particularly commend Professor Berger's method for assessing vitamin A. Pioneering research on vitamin A precursors, its metabolism, and its utilization based on dietary protein content were predominantly conducted by the Professor in the United States. The modification of Professor Berger's micrometric method for

spectrophotometric determination of carotene and vitamin A in blood is still used in laboratories.

Professor Berger was also involved in evaluating the diet and nutritional status of various population groups, including youths being nourished collectively and individually. It's worth noting the comprehensive and collaborative research undertaken at the Department of Human Nutrition Technology and Hygiene under his leadership. This initiative, spearheaded by Professor Berger, encompassed multi-faceted research carried out in scientific cooperation between Poland and the United States. This research revolved around the accessibility and utilization mechanisms of carotene and vitamin A.

Furthermore, Professor Berger took part in other research endeavors of great significance, not only for the advancement of science but also for the economy. He authored a study for the Ministry of Agriculture on the possibilities and optimization of protein balance for the nutritional needs of the population in Poland.

During his work at Maria Curie-Skłodowska University in Lublin (1946-1949) and as well at the National Institute of Hygiene (PZH) in Warsaw (1950-1957), Warsaw University of Technology, Faculty of Chemistry (1950-1952), and Warsaw University of Life Sciences (SGGW) (1954-1999), he published over 500 original scientific papers, review articles, and popular science articles in the field of food science and human nutrition, with a particular focus on the role of vitamin A and protein metabolism. He also disseminated knowledge on human nutrition, economics, and food policy both domestically and internationally. A significant part of these works were published in foreign languages, which brought Professor Berger's name to prominence in international scientific field and resulted in numerous invitations to lecture at foreign universities and other research institutions.

Prof. DSc Włodzimierz Kamiński, while evaluating the scientific, educational, and organizational achievements of Professor Stanisław Berger, in connection with the initiation of proceedings to confer an honorary doctorate, emphasized that for nearly 50 years, Stanisław Berger's name has been recognized and highly esteemed in Polish and global food technology and nutrition science. His accomplishments are particularly impressive and deserving of the highest recognition for his role in promoting Polish science on the international stage.

### **Pioneer of human nutrition science in Poland**

The term "human nutrition," understood as a scientific discipline, was formulated many years ago by Professor Stanisław Berger, contributing to the institutionalization and conceptualization of this theoretical and research-oriented field. This led to the establishment in 1977 of the first scientific institution

dedicated to human nutrition in Central Europe. Initiated by Professor Stanisław Berger, the Faculty of Human Nutrition and Rural Household Management was established at the Warsaw University of Life Sciences.

The conceptualization of human nutrition as a scientific discipline was formulated by Professor Berger in the form of the first definition of the science of human nutrition, along with its fundamental conceptual apparatus, including the terminology specific to this field. In the formulated definition of the science of human nutrition, its author emphasized that it is a scientific discipline dealing with the interrelationship between food and the human body at various levels: molecular, cellular, tissue-based, encompassing the entire organism, as well as populations.

The research work of the inventor of the definition of human nutrition science fully accounts for all these levels of interdependencies between food and the human body. They also find reflection at the population level. An example of such an approach is Professor Berger's viewpoint regarding food policy, which he stated, "is fundamentally based on nutritional and health categories". In this context, Professor Berger wrote that the role of science, education, and knowledge dissemination should increase to better understand the connection and impact of dietary habits on human development, health, and physical well-being. He argued that the cost often paid for nutritional deficiencies is higher than the expenses associated with preventing these adverse effects. Therefore, a consumption model should be created that serves the complete satisfaction of the needs of all citizens. Professor Berger advocated for increased investment in health education and the creating of lifestyles .

### **An authority in the scientific community both nationally and internationally**

In a speech dedicated to celebrating Professor Stanisław Berger's 80th birthday in 2003, Prof. Dr. habil. Jan Gawęcki asserted that the Jubilarian fully deserves the title of authority due to the following arguments:

1. Professor Stanisław Berger laid the foundation for the science of human nutrition, closely intertwined with the science of food. During the 1960s and 1970s, he published pioneering work on vitamin bioavailability, and in the subsequent decades, he charted paths for nutritional education and food policy.
2. He established the country's first Department of Human Nutrition Technology and Hygiene, as well as the first and still the only academic faculty educating in the field of human nutrition. Under

his guidance, nearly 500 individuals earned their Master of Engineering degrees, several attained doctorates, and a few achieved habilitation. Several outstanding professors emerged from his guidance. A substantial group of individuals from Poland and abroad owe their scientific careers, to a greater or lesser extent, to him. He reviewed dozens of doctoral and habilitation dissertations, as well as professorial applications, combining critical assessment of the work with kindness toward the creator.

3. Professor Berger's boundless energy and imperative to act ensured that over the course of 50 years, there hasn't been a significant nutritional matter, initiative, institution, or organization in which his name didn't appear – from campaigns like "Milk for Students" to his involvement in international organizations such as FAO, WHO, and UNICEF. His wisdom and captivating personality led to entrusting him with the most responsible roles, from being the head of the Department and Dean of the Faculty to Vice President of the International Union of Nutritional Sciences. His companionship and friendship were particularly valued.

It's worth noting that a characteristic distinguishing Professor Berger from many other scientific luminaries is his directness and lack of distance, particularly evident in personal interactions. Professor Stanisław Berger's authority is not only derived from his indisputable role in shaping the science of human nutrition, his research accomplishments, and publications, but also from his remarkable personality, his ability to forge connections with people, and his immense openness in interpersonal relationships.

### **A lecturer, a students' friend and an indefatigable promoter of human nutrition science**

Professor Stanisław Berger is not only an outstanding scientist but also a remarkable educator. He began his academic teaching career in 1946 at Maria Curie-Skłodowska University in Lublin and continued at the Warsaw University of Life Sciences (SGGW) from 1954. He conducted teaching activities in subjects such as animal nutrition, nutrition physiology, human nutrition biochemistry, selected aspects of nutrition technology, conducted seminars and specialized workshops for students. In his teaching, he always employed innovative forms of collaboration with students.

Professor Berger supervised the graduation of nearly 400 master's and engineering students, as well as 16 doctoral candidates, of which five have subsequently attained habilitation and become professors at SGGW or other Polish and foreign scientific institutions.

His unique approach towards students was characterized by treating them as individuals and with

a paternal attitude. He recognized them as the most essential and inherent value of the university. In return, students reciprocated this attitude with warmth, trust, and appreciation for Professor Berger as an authority figure and a true role model of an academic teacher and mentor.

Professor Berger based his teaching not only on Polish and international source materials but also on his own scripts and textbooks. His contribution to teaching population nutrition and training specialists in the field of human nutrition in Poland and worldwide is highly significant. His co-authored book "Polityka i organizacja żywienia ludności" (PWE, 1980) stands as the first academic textbook on this subject in Poland (and not only in Poland), for which the Minister of Science, Higher Education, and Technology awarded a scientific prize.



Photo 2. Professor Stanisław Berger at work in his office (Photo from the collection of SGGW)

Professor Stanisław Berger disseminated knowledge in the field of human nutrition by collaborating with economic and cultural entities, as well as through the press, radio, and television. He delivered numerous scientific and popular science presentations. The act of popularizing knowledge in human nutrition took on various forms, all guided by the principle of presenting scientific topics in a comprehensible manner for everyone, regardless of their academic background. This same approach is evident in Professor Berger's "Nutritional Rules," which is based on the widely recognized "7 U" principles of proper nutrition. The sequence of these principles is as follows: Variety; Moderation; Regularity; Skillful preparation of meals; Physical activity; Avoiding excess; Smiling. In Polish, '7U' reads: Urozmaicenie; Umiarkowanie; Uregulowanie; Umiejętne przygotowanie potraw; Uprawianie sportu; Unikanie nadmiaru; Uśmiechanie się.

Professor Stanisław Berger's "7U" as the foundation for healthy eating is a recipe for a healthy lifestyle, incorporating physical activity and smiling, as well as a recipe for longevity. He himself is a living example

of this, always wearing a smile and maintaining an optimistic outlook on life and people. These principles are widely propagated by Professor Berger's protégés in educational programs concerning human nutrition.

### Organizer of scientific life in Poland and abroad

Professor Stanisław Berger exceptional scientific achievements and organizational skills on a global scale were rooted in his prior experiences and specialized scientific practices in countries like the United Kingdom, the Netherlands, Czechoslovakia, Sweden, and the USSR. His work as a Rockefeller Foundation fellow at Cornell University in the USA was particularly influential. He also made the most of the unique opportunity afforded by his work at the FAO Secretariat in Rome (1967-1971), where he was involved in the World Agricultural Development Plan. Later, as the Head of the Nutritionists Training Section, he provided advice and training to nutritionists in developing countries.

His active involvement in prestigious international organizations, numerous presentations at international conferences, and lectures at foreign universities (in the USA, India, the UK, Italy, and Hungary) led Stanisław Berger to attain an indisputable global position in the field of human nutrition science. Notable international activities that brought him recognition include:

- Active membership in the International Union of Nutritional Sciences (IUNS) since 1957, where he served as Vice President from 1993 to 1997.
- Vigorous participation in the Federation of European Nutritional Societies (FENS), where he served as President from 1987 to 1991, and in the European Academy of Nutritional Sciences (EANS) as a member.
- Involvement in various United Nations agencies, such as FAO, UNICEF, WHO, ILO, and IAEA, and co-founding the United Nations University (UNU), in Tokyo.

Professor Berger has been, or is, a member or chairperson of several scientific organizations in Poland, including the Polish Biochemical Society, Polish Nutritional Science Society, Polish Food Technologists Society, as well as committees related to Food Technology, Food Chemistry, and Human Nutrition under the Polish Academy of Sciences, the Polish Committee for the International Union of Nutritional Sciences, the National Committee of the International Council for Science (ICSU) under the Polish Academy of Sciences, and the Food Economy Committee of the Polish Scientific Society for Food Production (NOT).

He has served as an editor in numerous national scientific journals (e.g., *Roczniki Państwowego Zakładu Higieny - Annals of the National Institute of Hygiene*, *Żywność Człowieka i Metabolizm*, Polish

*Journal of Food and Nutrition Sciences*, *Przemysł Spożywczy*) and foreign scientific journals (e.g., *International Journal of Food Sciences and Nutrition*, UK; *Nutrition - the International Journal of Applied and Basic Nutritional Sciences*, USA).

For many years, he has been disseminating knowledge about food and nutrition through radio and television broadcasts, which earned him the Radio and Television Award in 1991. As a co-founder of the Polish Nutritional Science Society in 1980, he became its first chairman (currently Honorary Chairman). He held the position of chairman of the Polish-Swiss Society from 1983 to 1996 and served as the president of the newly established Association of Polish Experts of the United Nations - POLSENZ from 1992 to 1996. From 1999 to 2002, Professor S. Berger was a member of the Board of the Council of Scientific Societies under the Presidium of the Polish Academy of Sciences.

He is also the patron of the Gastronomic Schools Complex in Warsaw at Majdańska street 30/36, and the ceremony for bestowing his name upon the institution took place on September 1, 2011. In recognition of his immense contributions to the field of human nutrition science in Poland and worldwide, Professor Stanisław Berger was awarded an honorary doctorate by SGGW in 1995. In 1996, he was elected a Fellow of the Royal Society of Medicine (UK) and served as Vice



Photo 3. Professor S. Berger awarded the Commander's Cross with Star of the Order of Polonia Restituta (Photo from the collection of SGGW)

Chairman of the Council of the Federation of Polish Medical Societies from 1996 to 2003.

Professor Berger's name and information about his scientific, professional, and organizational activities are included in various foreign bibliographic publications.

He has been honored with numerous state and ministerial decorations and awards, including the Commander's Cross with Star and the Knight's and Officer's Crosses of the Order of Polonia Restituta, the Medal of National Education, the B. Rumiński Medal, and the Gold Honorary Badge of the Chief Technical Organization (NOT). He was also honored three times with the Minister's Award.

### A Living Legend

Even though Professor Stanisław Berger has been retired for many years, he remains present in the life of his *Alma Mater*, especially through the group of academic teachers he established. They strive to creatively develop the ideas initiated by Professor Berger within the Institute of Human Nutrition Sciences and the Faculty of Human Nutrition at the Warsaw University of Life Sciences, following the current structure of the university.



Photo 4. Professor S. Berger celebrated his 99th birthday (2022) (Photo from the collection of SGGW)

Professor Stanisław Berger's undisputed authority ensures that he is not only active within the circles of his University but also on the international stage. An anecdote from one of his former students illustrates this: during the 22nd IUNS-ICN International Congress of Nutrition in Tokyo, Japan, in December 2022, the student randomly met an elderly man.

Upon learning that she was from Poland, the man immediately smiled and said, "Stan Berger." Once he discovered that she was a protégé of Professor Berger, they engaged in a friendly conversation. This man turned out to be Prof. Mohd Ismail Noor, who personally knew Professor Berger and recalled their collaboration in the International Union of Nutritional Sciences. He particularly remembered Professor Berger's memorable speech during the 19th IUNS-ICN congress in Bangkok in 2009, during which Professor Berger was honored with the title of "Living Legend". This heartfelt encounter underlined how important Professor Stanisław Berger is to the community of nutritionists.

Professor Berger's professional life has earned him unquestionable fame, placing him on the highest pedestal in the field of human nutrition science. He serves as an unreachable model for us, a treasury of knowledge and wisdom. On the occasion of his 100th birthday jubilee, we wish Professor Berger many more years of life filled with health and smiles.

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