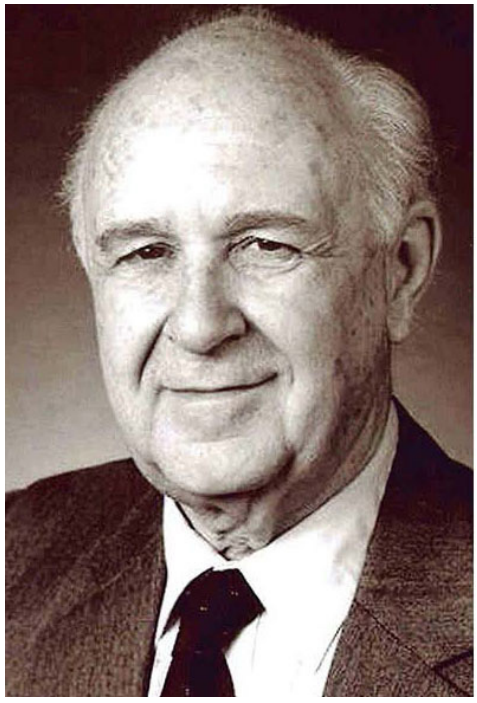
ACTA ABP BIOCHIMICA POLONICA

Vol. 68, No 1/2021
I–II
https://doi.org/10.18388/abp.2020_5623

Obituary

Professor Waclaw Tadeusz Szybalski



Wacław Tadeusz Szybalski (1921–2020)

Wacław Tadeusz Szybalski was born September 9, 1921 and raised in the then city of Lwów, Poland, the son of Michalina Rakowska Szybalski, a crystallographer, and Stefan Szybalski, an electrical engineer. He showed a strong intellect and a keen interest in science, even as a young boy and this stayed with him his whole life.

Wacław Szybalski received his education at the Institutes of Technology in Lwów, completed his bachelor degree in chemical engineering in 1944. Later on in 1945 he did the recognition of his previous degree at the Technical University of Silesia in Gliwice (Poland). Next, Szybalski obtained his PhD degree at Gdansk University of Technology in 1949. The Szybalski family managed to survive both the Nazi and Soviet occupations of Lwów, during the extremely difficult period of World War II, partly due to their involvement in the production of typhus vaccine at the institute of Professor Rudolf Weigl, at the University of Jan Kazimierz (UJK) in Lwów where many of the intelligentsia of Lwów were sheltered during the chaos of WWII.

He left Poland in 1949 and worked at the Institute of Technology in Copenhagen, Denmark. Later immigrate to the United States in 1950, arriving with $35 in his pocket and his hard-earned scientific education. He immediately found work as a scientist at Wyeth Inc., West Chester PA, and then joined the famous Cold Spring Harbor Laboratory, in Cold Spring Harbor, NY, from 1951–1955 as a Staff Member. This was an exciting time and place to be working in the early golden age of molecular genetics, in the company of future Nobel Prize winners, such as James Watson, Barbara McClintock, Alfred Hershey, Max Delbrück and Salvador Luria. Here, in 1952, Wacław Szybalski met his future wife, Dr. Elizabeth Hunter, a fellow scientist. They were married in 1955 and moved to work with Nobel Prize winner Selman Waksman at the Institute of Microbiology at Rutgers University in New Brunswick, NJ, as an Associate Member.

In 1960, Wacław Szybalski joined the McArdle Laboratory for Cancer Research at the University of Wisconsin, Madison WI as an Associate Professor of Oncology, and rose to the rank of full Professor in 1963. He worked in the McArdle Laboratory for Cancer Research over 25 years, carrying out ground-breaking research in genetics and molecular biology. He published over 250 scientific papers over 63 years, starting in 1949, covering many areas of biology, including bacterial genetics, mechanisms of drug resistance and radiosensitization, mutagenesis, function of antibiotics, multi-drug therapy, molecular biology of bacteriophages, particularly phage lambda, genetic engineering, gene therapy, and DNA biochemistry/sequencing.

Professor Wacław Szybalski made major contributions to our understanding of molecular biology and genetics. His prolific research output in the United States began with genetic studies of drug resistance that led to the use of multi-drug therapy that is now widely used to treat bacterial and viral infections and cancer. His studies of the antibiotic-producing soil microorganism, *Streptomyces*, yielded information that was useful in the commercial production of streptomycin, an effective therapeutic for treating tuberculosis. Dr. Wacław Szybalski, along with his wife Elizabeth, were the first researchers to perform gene transfer into mammalian cells (using HAT medium) and to introduce the ground-breaking idea that treatment for human genetic diseases could be made possible through gene therapy. Wacław Szybalski was always a visionary and years ahead of his time in foreseeing the future of molecular genetics. His work laid the foundations for several Nobel Prizes won by others. About 20 Polish postdocs and professors completed scientific internships in his laboratory in the McArdle Laboratory for Cancer Research at Madison, Wisconsin, between them: Zbigniew Lorkiewicz, Edward Borowski, Karol Taylor, Anna Podhajska, Józef Kur, Tadeusz Kaczorowski and Marian Sęktas.

He also founded and served as the Editor-in-Chief of the journal Gene from 1976–1996, and served on the editorial boards of numerous other journals. Fellow Pole, Pope John Paul II, sought his advice on the then new field of genetic engineering, during a private audience in 1981. Professor Wacław Szybalski also strongly and defended the rights of free inquiry in science, including "the principle of the freedom to teach and research," by which alone the truth can be found.

Professor Wacław Szybalski retired in 2003, and held the rank of Emeritus Professor of Oncology and of Genetics since then. He also continued to attend the Phage Meetings started in Cold Spring Harbor Laboratory, nev-

er missing one for fifty straight years. He received many science awards over the years, was elected a Fellow of the American Association for the Advancement of Science, and was a Foreign Member of the Polish Academy of Sciences and Polish Academy of Art. He was also a honorary member of the Committee of Biotechnology Polish Academy of Sciences and founded an annual Award for the best publication published by young Polish scientists.

In 2011, he was awarded with the highest honor awarded in Poland, becoming a Knight of the Order of Polonia Restituta, First Class, presented by the President of the Republic of Poland, Bronisław Komorowski. He was also distinguished by five leading Polish Universities: Maria Curie-Skłodowska University in Lublin (1980), University of Gdańsk (1989), Medical University of Gdańsk (2000), Gdańsk University of Technology (2001) and Jagiellonian University in Cracow (2012) with doctorates honoris causa.

Wacław contributed greatly to the advancement of molecular genetics both in the United States and Poland, and remained a strong patriot of both countries to the end of his life. He was also a philanthropist, both in the United States and Poland, contributed to many projects benefiting both science and students, and to an annex of the Carnegie Library at Cold Spring Harbor Laboratory, which was named for him. He contribute to the establishment and development of Intercollegiate Faculty of Biotechnology University of Gdańsk and Medical University of Gdańsk and founded the equipment for laboratories IFB UG and GUMed and Faculty of Chemistry Gdansk University of Technology. He also established the Foundation of his name. The goal of the Foundation is to pertain to raising international prestige of the Polish science and the city of Lwów.

A biography of Wacław Szybalski long, adventurous and interesting life was written by Polish novelist Jarosław Abramow-Newerly and recently published in Polish and English by the Professor Wacław Szybalski Foundation and Gdansk University Press in Poland. In addition the movie "The Essence of Life" was also made about him.

Ewa Łojkowska,
President of the Board
of Professor Wacław Szybalski Foundation