

## IN MEMORIAM



With a special honor and piety, I write in memoriam of our Professor Katarina Borojević, fundamentally underlining her dignity as a women, scientist, mother and wife. It is rarely spoken of successful women and their unmerciful struggle in the world that is created and governed by social norms, and their perception of survival and existence, in this world that we know, that is sometimes far from our understanding. After years of experience, in the enlightened and enriched life that she gave to all of us, at this moment I wish to share my memories of our dear and favorite professor Katarina Borojević. This woman had represented the scientific bard in biological discipline of Genetics, which has today become an imperial science among all the sciences. One of the most prominent scientists in the field of Genetics from these turbulent parts in the Balkan Peninsula is Professor Katarina Borojević, and my acquaintance and friendship with this eminent Professor dates back to seventies when I studied Biology at the Faculty of Science and Mathematics in Novi Sad. Her character was deeply engrossed in my world since she was an outstanding scientist, a university professor, a distinguished lady, and during her lectures in Genetics, we were all aware that we came into being, like every human being on this Planet, by means of a life lottery and so this lottery that is called the life, we had received as a gift. Katarina Borojević was born in Senta on November 17th, 1928, in a fertile Vojvodina, where the mild wind blows and birds sing, where the fields are regularly ploughed and the wheat is sown, and these parts of Vojvodina that create dark green fields became close to her for all her life. It is exactly here that she had indulged in science and published her results throughout the world. The light of the sun shone on the fertile land, and the night and silence provided an explanation of the origin and end of life in the cultivated land. Her beautiful days in these plains and forests, according to the eternal law of tranquility, were enriched with a lush and lively sounds and melodies. She finished elementary school in Novi Sad, and finished Gymnasium in Osijek in 1946, in the midst of the War. When she was thirteen years old, she discovered Genetics while breeding chinchilla-rabbits which in the first generation progeny were not gray chinchillas, but were two black, two white and two brown rabbits. An agronomist that came to her house as a guest told the excited young girl, who was dissatisfied because she did not get the gray chinchilla, that this process was called Tavčar's genetics. That event was engraved in the memory of the Gymnasium student

Popović Katarina and had determined her path to an unknown world of genetics, which was then taught only at the Faculty of Agriculture and Forestry at the University of Zagreb. Armed with her restless intellectual spirit she directed all of her vital forces, her energy towards entering the world of agriculture as the oldest sector of the economy in the human society. She was enrolled at the Faculty of Agriculture and Forestry at the University of Zagreb in 1946/47. She had graduated in 1952. In the second year of her studies, she started to work with the famous professor Tavčar and Professor Maria Kump as a Volunteer in Genetics, and later become a Demonstrator. At the May 1949 festival, she received a student award for her work on the quality of “Makasimir wheat”, realized with support of a Teaching assistant Slavko Borojević. From 1950, she worked on heterosis in rye, with Slavko Borojević, who was among the first Yugoslav scholarship holders of the Rockefeller Foundation, who had been in the USA for two years. Their correspondence is beautifully described in the book on USA published by the Academician Slavko Borojević, portraying the way of life in that country, the meetings with the greatest scientists who laid the foundations of today's genetics and their personal thoughts. Their intellectual connection turned into great love and they were married in 1952. She continued her specialization in Genetics and Plant Breeding from 1952 to 1953 in Zagreb. Professor Katarina Borojević, with her restless spirit, continued her journey with young scientists, her contemporaries towards a specialization at Cornell University in the USA in the period from 1956 till 1957. There she had met many scientists from the world of genetics, that was developing with great momentum. In the period from 1951 to 1957, the children of Duško and Ksenija were born and the home of Borojević was filled with joy. Professor Katarina Borojević had to be, simultaneously, a mother, wife and scientist that also had to monitor all field works related to her research. Such a hard-working and persistent woman defended her doctoral dissertation titled: “Genetic changes induced by radioactive irradiation in the *Triticum* species” at the Faculty of Agriculture and Forestry at the University of Zagreb in 1962. Professor Katarina Borojević had invested great effort in her family, students and friends, supporting the education of many future generations of geneticists striving for them to have a dignified life of scientists, experts and university professors. She taught them about the beauty of life, patience and love for people. She spent part of her life as an agronomist working from 1952 to 1956 in Poljoobskrba (Agricultural Trade Company) in Zagreb and the Seed Cooperative of Croatia. She came with her family in Novi Sad, where in 1957/58 she became a Teaching Assistant at the Department of Genetics at the Faculty of Agriculture in Novi Sad, then she was elected an Assistant Professor in 1963 and an Associate Professor of Genetics in 1970. She became a Full Professor Genetics at the Department of Biology at the Faculty of Natural Sciences and Mathematics in 1975, as well as the Director of the Institute of Biology, Faculty of Natural Sciences in 1988-1990. A great period of her life was dedicated to science, her students and to traveling around the world, as a scientist and visiting professor. Her travel memories are wonderful descriptions of the meetings with the greatest scientists of that time, their discussions, as well as the descriptions of cities and the nature of many countries that she had visited around the globe. The most beautiful description in her memoirs is the encounter with Indira Gandhi whom she met in her tent during the International Genetic Congress in India, where latter was guarded by Sikti and later killed. It is a well written description of a woman who marked a political era. There are a few unselfish and honorable people such as Professor Katarina Borojević who are worthy of life and existence. In the memory of her students, both from our country and the world, she has remained as an angel who carries the joy of life and love, and a respected, balanced, poised and a grateful friend. Professor Borojević had taught genetics at graduate studies at the Faculty of Medicine in Novi Sad, Faculty of Agriculture in Novi Sad, Faculty of Agricultural Sciences in

Zagreb, Genetics and Plant Breeding at the Faculty of Agriculture in Vinkovci, University of Osijek. As a visiting professor, she had visited the US universities several times, all the European countries, Netherlands on several occasions and Israel. She had been presiding at numerous international meetings, she was in organizational committees and announced her scientific novelties in the scientific world which had accepted and rewarded it, pay in respect to her enormous knowledge. Professor Borojević Katarina had collaborated and had numerous meetings with the world's greatest names in the field of genetics, she exchanged research experience, selection material, and hosted many future scientists that were on postdoctoral studies that jointly with her scientific team introduced new genetics scientific methods. As a female scientist she had published a lot thus she was the author, with her husband Academician Slavko Borojević, of two editions of university textbooks Genetics (1971 and 1974), two editions (1986 and 1991) of the book Genes and Population, and 14 editions of course notes in the field of genetics and plant breeding. She was an mentor of 180 undergraduate theses, 6 specialization papers, 11 master's theses, and 5 doctoral theses. She was the project leader of 10 national and 10 international scientific projects. She has published over 220 scientific and professional papers; the majority of which were published in international journals. The results of her investigations represent important contributions to the theory of induced mutations, the genetic pollution of the environment and genetic engineering. She was the creator of four wheat varieties, and a number of wheat mutant lines resistant to diseases, with high protein content and low stalks, as well as several varieties of medicinal plant cultivars. As one of the pioneers and leading plant mutation scientists, she was elected to be an expert in the Program for Induced Mutations in Plants of the International Atomic Energy Agency (IAEA) in Vienna (1966-1990); she was a president of the EUCARPIA Plant Polyploidy and Mutations Section of the European Plant Breeding Association (1972-74), and a councilor to the European Environmental Mutagen and Genomics Society (1982-84). She was a president of the Association of Geneticists and Plant Breeders of Vojvodina (1978-80). Together with her husband Slavko Borojević she succeeded to lay the foundations for modern genetics the University of Novi Sad and had created the prominent school of Genetics and Plant Breeding recognized in the world, that had marked the twentieth century. Katarina Borojević had received the October Award of Novi Sad (1961 and 1971), the 7th of July Prize of Serbia (1986), and was awarded a number of national and international honors and prizes. Although she retired in 1992, she did not stop working or being in touch with international science community while following the novelties in the field of Genetics and the new trends in today's world of globalization. Our family relationships are profound, from science to life joys, sharing different experiences and life paths. Thank you, Professor Borojević, for letting me to get to know you and for giving me the opportunity to learn, for decades, what science really is and how important it is for the life and for the progress of a country, from such a noble and inspirational women in science.

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