

## Professor Ivan Regula – on the occasion of his ninetieth birthday



In the middle of January 2026, I was glad to be able to wish Professor Ivan Regula a happy 90<sup>th</sup> birthday. Professor Regula spent his entire professional career at the Division of Botany, Faculty of Science in Zagreb, teaching plant physiology to many generations of students. At the end of 2025, we celebrated the 150<sup>th</sup> anniversary of continuous botany teaching in Zagreb, marking the historical origins of today's Division of Botany. The time spent with Professor Regula at that celebration brought back fond memories of the days when his presence at the Division was part of everyday life.

Professor Ivan Regula was born on 18 January, 1936 in Gornja Stubica, in Hrvatsko Zagorje, a region well known for its natural beauty and predominantly green landscape. It is therefore not surprising that plant biology became the main focus of his professional life. After attending elementary school in Gornja Stubica and high school in Zagreb, he enrolled at the Faculty of Science, University of Zagreb. In 1962, he graduated in biology with the thesis "Light and CO<sub>2</sub> compensation points of Mediterranean plants cultivated in the Zagreb Botanical Garden" under the supervision of Professor Zlatko Pavletić. He obtained his master's degree in 1967, with a thesis entitled "Indolic compounds in nettle (*Urtica dioica* L.)" under the supervision of Professor Dina

Keglević, founder and head of the Tracer Laboratory at the Ruđer Bošković Institute. Professor Regula continued his research on indolic compounds under the guidance of Professor Zvonimir Devidé, the distinguished Croatian biologist and botanist, and Dr. Sergije Kveder, senior scientist at the Ruđer Bošković Institute. In 1978 Professor Regula defended his doctoral thesis entitled "5-hydroxyindolic compounds in plants".

Professor Ivan Regula began his professional career in 1963 as an assistant at the Division of Botany, Department of Biology, Faculty of Science, University of Zagreb. From his first days of working at the faculty, he participated in teaching, with an emphasis on laboratory classes in Plant Physiology. He particularly enjoyed introducing new methods and ideas and helping students acquire skills in experimental techniques, thus preparing them for independent laboratory work. Professor Ivan Regula was appointed assistant professor in 1982, promoted to associate professor in 1991, and became a full professor in 1999. In addition to Plant Physiology, a mandatory course in the biology study programme, Professor Regula introduced the elective course Selected Chapters in Plant Physiology for students with a special interest in plant biology. In postgraduate studies, Professor Regula taught the course Physiology of Seed Germination. As a professor of Plant Physiology, he was also involved for several years at the Faculty of Natural Science, Mathematics and Education, University of Split, and at the Faculty of Education, J. J. Strossmayer University of Osijek, contributing to the education of future biology teachers. His extensive teaching experience was incorporated into several biology textbooks for elementary and secondary schools. In 1995, he and co-author Professor K. D. Dubravec published the university textbook Plant Physiology for students of biology and agriculture. Professor Regula supervised many students working on their bachelor's, master's or doctoral theses. He was not only an expert in plant physiology but also an excellent botanist. Together with his wife, Professor Ljerka Regula-Bevilacqua, a botanist and long-term head of the Botanical Garden of the Faculty of Science, he devoted considerable time to studying plants in their natural habitats and took part in professional visits to many botanical gardens abroad. This field expe-

rience provided numerous interesting examples for his Plant Physiology lectures, which became popular even among students who were not particularly interested in plant biology. Over the years, Professor Ivan Regula undertook numerous duties at the Department of Biology, Faculty of Science. From 1992 to 1995, he was head of the Department of Biology, and from 1993 to 1999, he served as head of the Division of Botany.

In his research, Professor Regula focused on the occurrence and physiological function of biogenic amines in plants. He mainly studied 5-hydroxyindolic compounds, which are not very common in plants, examining their distribution across different plant species, presence in plant tissues, possible roles, precursors, and metabolites. He paid particular attention to the occurrence and role of 5-hydroxytryptamine (serotonin) in plants. He succeeded in adapting reagents normally used for detecting indoles on chromatograms for the histochemical localisation of serotonin in plant tissues and cells. He thus established that serotonin is present in the vacuoles of the lower leaf epidermis, in the protein bodies of walnut seeds, in the stinging hairs of nettle, and in the mesocarp tissue of tomato fruit. Professor Regula has actively participated in many research projects and was the principal investigator for the projects “The role of selected plant hormones in plant development” and “The effect of chemicals on physiological processes in plants” funded by the Ministry of Science, Education, and Sports of the Republic of Croatia. The results of his research have been published in more than 30 articles in national and international journals and proceedings. He has also presented the results of his work at many international and national scientific conferences. During his professional career, Professor Regula collaborated with both domestic and foreign research institutions. He visited, for example, the Institut für Botanik in Zürich, Switzerland; the Botany School in Cambridge, the Jodrell Laboratory in Kew, United Kingdom; Institut Botaniki – odjel Fizjologije rósline Univerzitet Wroclawski, Poland; the Department of Forest Genetics and Plant Physiology University of Umeå, Sweden.

In addition, Professor Regula participated enthusiastically in the popularisation of biology and plant physiology. As a member of the state committee “Znanost mladima” (1973–1985), Professor Regula attended meetings of junior biologists for many years, motivating young people to take an interest in science. Even after his retirement, he was al-

ways willing to take part in various popularisation activities, such as public lectures, radio and television broadcasts, and the writing of articles for “Priroda”, a magazine for the popularisation of natural history.

Professor Regula was an active member of numerous national and international professional societies, including the Croatian Biological Society, the Croatian Ecological Society, the Croatian Society of Natural History, the Federation of European Societies of Plant Biology (FESPB) and the International Association for Danube Research (IAD). His activities in the Croatian Society of Plant Physiologists are particularly notable. He was one of the founders of the society in 1977 and served as president from 1990 to 1992. He is now an honorary member and remains involved in the activities of the society, which is now called the Croatian Society of Plant Biologists. He was also the Croatian representative for FESPB for many years and as a member of organising committee he participated in the organisation of the 6<sup>th</sup> FESPB Congress held in Split in 1988. In 1992, Professor Regula was elected as an active member of the New York Academy of Sciences.

I met Professor Ivan Regula in the third year of my molecular biology studies at the Faculty of Science in Zagreb, and a few years later I joined his team as an assistant. He was always willing to help young collaborators by answering questions and offering advice drawn from his extensive experience in education, research, and departmental administration. I am glad to have had the opportunity to learn from Professor Regula, not only about plant physiology, but also about teaching, including how to motivate students and, most importantly, how to maintain professional enthusiasm even in challenging situations. With particular kindness, tolerance, and understanding, Professor Regula encouraged junior collaborators to pursue their own ideas and to develop their individual professional identities. Even after his retirement in October 2006, Professor Regula remained interested in the work and life of our research group. We have turned our meetings at work into coffee breaks at a patisserie, and with wishes for good health and fortune on the occasion of the Professor's 90<sup>th</sup> birthday, we are looking forward to continuing this pleasant custom in the new decade of his life.

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