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*In memoriam*  
**Professor Dr Dragoljub Grubišić**  
**(1946-2011)**



On the last day of July 2011 the Faculty of Biology, Institute for Biological Research “Siniša Stankovic” (IBISS) and the Serbian Society of Plant Physiology lost one of their most inventive, talented and favourite colleagues, Professor Dr Dragoljub Grubišić. Soon after the end of the XIX Symposium of the Society of Plant Physiology (13-15th June, 2011), at which Dr Grubišić’s coworkers had presented several papers describing research that he had initiated and led, came the unexpected news of his death. Despite the difficult state of his health over the past few years, Dr Grubišić continued to fulfill his obligations at work and with undiminished vigour and enthusiasm contributed to all aspects of the IBISS Department of Plant Physiology’s activities: scientific, administrative and social. His vitality and intellectual strength almost convinced us to believe that the inevitable could be avoided, and that the man we all loved and appreciated would be able to continue his fruitful scientific work.

Dr Dragoljub Grubišić was born on 13 December 1946 in Zrenjanin, where he finished basic schooling and two years of secondary school. The third and fourth year of secondary school he completed in Banja Luka. He enrolled into the Department of Biology at the Faculty of Natural Sciences in Belgrade in 1964/65 where he graduated in 1969. From 1970 to 1972 he was an intern-trainee at IBISS with a stipend from the Serbian Republic Association of Science (RZNS). He was selected as a junior assistant at IBISS in 1973 and in June 1980 he defended his Masters thesis entitled “**Effect of light and hormones on germination of photoblastic seeds of *Paulownia tomentosa***”. The same year he was appointed assistant in the Department of Plant Physiology, IBISS. Subsequent research, in fruitful collaboration with his colleague Dr Radomir Konjević, on seed physiology resulted in a number of distinguished publications in the field of light and hormonal regulation of the germination of photoblastic seeds. He defended his PhD thesis, entitled “**Light and growth substances as regulators of germination of photoblastic seeds**”, in 1984. He was elected a research associate in 1984 and a senior research associate in 1989. He became a principal senior scientist in 1995.

Dr Grubišić continued to develop his area of research during visits abroad, in collaborative research at the Humboldt University, Berlin, Germany in 1984 and 1985, and at the Institute of Basic Biology, Okazaki, Japan in 1986.

Dr Grubišić won research awards in the area of plant physiology and cytology from the “Stanka and Prof. Ljubiša Glišić Fund” in 1986, and the Belgrade Chamber of Commerce Award for the best inventions, designs and technical improvements in the economy of Belgrade for his project “Biotechnology of plant micropropagation” in 1989.

He was a member of the IBISS Scientific Council, and he represented the IBISS Department of Plant Physiology as a member of the Scientific Council of related institutes in: Institute of Molecular Genetics and Genetic Engineering, Institute of Medicinal Plants “Josif Pančić” (for two terms), and the Institute of Soils. He was a member and Chairman of the Committee for Genetic Engineering and member of the Committee for Biology in the Republican Ministry of Science. He was an active member of the Serbian Biological Society and the Serbian Society of Plant Physiology. He gave expert advice and suggestions to help design laboratories for tissue culture at the Plant Gene Bank in Belgrade, as well as facilities for commercial production of seedlings of small berry fruit in the agricultural combine “Džervin” in Knjaževac.

Dr Grubišić's research and student supervision qualified him to be elected to the position of Assistant Professor at the Department of Biology, Faculty of Natural Sciences, University of Belgrade in December 1990. He was engaged to teach the course **Photomorphogenesis**. He became Associate Professor in 1995 and a Full Professor in 2005. The Faculty of Biology and Department of Plant Physiology are grateful to Professor Grubišić for the large number of students that passed through his laboratory, as such opportunities for experimental practice could not have been provided anywhere else. Students had constant encouragement and support, developed critical thinking and felt that they were at home primarily thanks to Professor Grubišić. He participated as a supervisor or reviewer in the preparation of a large number of graduate theses, 17 Master's theses and 9 PhD theses. Professor Grubišić easily established professional relationships and had excellent cooperation with colleagues, professors and teaching assistants at the Faculty of Biology, Institute of Multidisciplinary Studies, Institute of Molecular Genetics and Genetic Engineering, Institute of Medicinal Plants “Josif Pančić”, the Faculty of Pharmacy, Institute of Soils, Institute of Physics, and the Faculties of Agriculture and Forestry, as well as with colleagues from numerous international research institutions. He was a researcher open to developing diverse ideas and was dedicated and consistent in their implementation.

Colleagues from the Departments of Plant Physiology at IBISS and the Faculty of Biology have always been participants from 1981 to the present time in research projects funded by the Serbian Republic Association of Science (RZNS), latterly Ministry of Science. Dr Grubišić led three of the most recent projects. His major research areas included physiological and biochemical research on plants, fungi and bacteria in laboratory and natural conditions. Highly respected papers were published in nearly all the relevant leading international journals on the effects of light in controlling plant development, especially on the germination of photoblastic seeds such as *Paulownia tomentosa* Steud., and their interactions with phytochrome and temperature, as well as with hormones and growth retardants. This was the subject area of the project “Phototropism in dicotyledonous plants” carried out in collaboration with the USDA Institute in Beltsville (1988-1989), as well as the Yugoslav-Greek collaborative project “Influence of light and chemical signals on seed germination and regeneration of ecosystems” (1996-1998). His publications on the effect of nitrite and other nitrogen compounds on reactions controlled by phytochrome appeared at the same time as results from other laboratories worldwide and generated considerable interest amongst other researchers. A highlight of the publications on this topic were the papers by Grubišić (and collaborators) entitled “**Nitric oxide and seed germination**” (in the book *NO Signaling in Higher Plants*, 2004: 239-275, Magalhaes, J. et al. Eds., Studium Press, Houston) and “**Seeking the role of NO in breaking seed dormancy**” (in *Nitric Oxide in Plant Growth, Development and Stress Physiology*, 2007: 91-111, Lamattina, L. & Polacco JC, eds., Springer-Verlag, Berlin, Heidelberg).

Another line of Dr Grubišić's research was in the field of tissue culture and biotechnology, where the results of his research had practical applications. He had particular interest in medicinal, endangered and endemic plant species. In this area he had several papers focusing on phytochemicals and molecular-genetic aspects of the genera *Centaurium*, *Gentiana*, and others. This research also gave rise to projects, in collaboration with other institutions, for the protection of nature and the environment. The project topics are illustrated in the following titles: "The cultivation, propagation and reintroduction of endangered plant species" (1996-1998); "Micropropagation, reintroduction and plantation breeding of the extremely endangered, endemic and potentially medicinal plant species *Nepeta rtanjensis*" (2002-2005); "Light and hormonal control of growth and development of plants, propagation *in vitro* and *ex situ* and conservation of rare and endangered species" (2005-2010); "Physiological, chemical and molecular analysis of the diversity of selected rare and endangered plant species and application of biotechnology for *ex situ* protection and production of biologically active compounds" (2011-), which he led from 2002 to 2011.

The past research of Dr Grubišić earned him an international reputation and gave him the opportunity to take part in international projects: FP7, under the acronym **TERPMED - Plant Terpenoids for Human Health: a Chemical and Genomic Approach to Identify and Produce Bioactive Compounds**; EU (2009-2013), as well as a project in collaboration with the Institute of Plant Physiology, of the Russian Academy of Sciences in Moscow, "**Cryopreservation of rare and endemic species of flora in the Balkans**". His recent research led to five publications in the Russian journal *Physiology of Plants* and other publications of the Russian Academy of Sciences.

With numerous collaborators Dr Grubišić had over 300 scientific publications, of which a number were reviews and monographs, and a large number were published in high ranking international journals. His research findings have found their way into chapters of books by internationally-recognised publishers. According to the Science Citation Index he had over 300 citations.

It is difficult to accept the fact that our Dragoljub has gone from our lives, leaving us only with our memories of a man who was the "nucleus for crystallisation" of so many of our scientific dilemmas, ideas and aspirations. Thoughtful, calm and quiet at all times and in all circumstances and a man who relaxed with a warm smile, while inquisitive and always at his desk in the laboratory, he was always helpful to everyone and would generously share the latest information not only from a variety of journals in our field, but also much wider in areas of physics, physical chemistry, technology and biotechnology, molecular biology and genetics with ideas about bioreactors and diverse accessories that could be patented. He continuously followed the work of his associates and enthusiastically looked forward to watching over every flower of his centauries, *Nepetas*, butterworts, gentians, *Inulas* and other species, organized memorable horticultural exhibitions at fairs and symposiums of our Society. There were unforgettable excursions and field trips that he conceived and organized with other members of the Department to Prokletije, Rtanj, Stara Planina, Eastern Serbia, Tivat salt pans, Orjen, Deliblatska sands, etc. Wherever he stayed during his vacations, he was still doing research in the field and would come back with a backpack full of plants. That backpack of his and his herbarium are mascots of our laboratory. He left us unforgettable companionship, friendship and signposts for the future life and work of younger generations of researchers. We are confident that his influence among biologists will be felt for a long time and that his many associates will maintain his interest in biological problems, his enthusiasm, energy and effective contacts with all his colleagues.