

**Dear Award Recipients,
Dear Colleagues,**

In my speech today I would like to focus on the problems that young Slovenian researchers face. Scientific work begins with one's doctoral dissertation. The ceremonial presentation of doctoral honors dates back to the Middle Ages. At the time, the honors conferred upon doctors were nearly equal to those of nobles. Of course, doctorates in the Middle Ages differed considerably from doctorates today. Back then, it was a matter of mastering all that was known, and not of advancing science. Dissertations were written in Latin until the eighteenth century. The awarding of doctoral honors was primarily linked to the right to teach at university.

As early as the nineteenth century, the doctorate had become a scientific doctorate. It was awarded for work that was of a level of quality fit for publication in a scientific journal and that represented at least a small contribution to the knowledge of man. The first entry in the book of doctors at the University in Ljubljana is dated July 15th, 1920. It is interesting to note that the first person to receive a doctorate from this university was a woman, not a man. "Doktorica" Ana Mayer began by studying physics and chemistry in Vienna. After receiving her degree, she continued her studies under Professor Samec in Ljubljana. In her dissertation, she discussed the action of formalin on starch.

In the past, doctoral dissertations were mostly defended by researchers at the height of their scientific careers. The original topic of the dissertation was proposed by the candidate. Today, the situation is essentially different. Candidates begin work on their doctorates immediately after completing the 2nd cycle of the Bologna process. Doctoral studies only take three and a half years. Today, the topic of the dissertation is in most cases proposed by the mentor. There is also a rule that states that the mentor is the co-author of the scientific article. And many of us have noticed that increasingly, the head of the research group is considered entitled to co-authorship of articles written on the basis of the dissertation. Here it should be noted that in fact anyone may sign their name to a joint publication, provided they fulfill these four conditions: the person made an essential contribution to the idea or to the creative and analytical work, the person significantly participated in the writing of the article, the person shared responsibility for the final version of the manuscript, and the person is capable of describing in detail their contribution to the work.

The future is none too bright for young Slovenian scientists who have just received their doctorates, especially women. The budgets proposed by the government for the past and current year foresee additional cuts in funding. Because junior researchers preparing their doctorates are employed for a fixed term, it is highly likely that the university or institute will not extend their employment contracts. In 2013, the number of doctors who completed their junior researcher training was twice as high as usual, as funding for pre-Bologna-process, four-and-a-half-year doctoral students was consolidated with funding for Bologna-process, three-and-a-half-year doctoral students. There is a strong likelihood that in the years 2013, 2014 and 2015, at least 300 young PhDs will find themselves in a situation where their only option will be to look for work abroad. In response, in August 2013 the Ministry of Education, Science and Sport published and carried out a Public Tender to stimulate researchers at the start of their career. Due to the relatively meager amount of funds available, this action only partially alleviated the problem.

Last year, the European Science Foundation evaluated the work of the Slovenian Research Agency. In their report, the European auditors stated that the Slovenian research environment is generally not open enough to attract excellent junior researchers and to enable them to set off on a path of academic and research independence. In their opinion,

the Agency should focus its energies on developing a scientific personality. It must facilitate a broader array of opportunities for and perspectives on developing, retaining and attracting excellent junior researchers: Slovenes returning from a tenure abroad, non-Slovenes from abroad and researchers whom it would like to keep at home.

The trend of high-quality Slovenes leaving home is something we have been used to since the time of Trubar. A rough estimate states that the comprehensive education of a new doctor costs society at least a half a million euros. This means that besides our 300 PhDs, we could actually be giving other European countries and the United States 150 million euros. So it is understandable that concern for young scientists is especially important, as they represent the most vulnerable population in science.

The number of applicative postdoctoral projects co-financed by economic entities must increase. Development must continue on a postdoctoral system that enables the postdoctoral researcher, upon completing his or her project, to transfer his or her research subject, technology or product into the economy. It would also be prudent to introduce a system of projects whereby the postdoctoral researcher who was previously a junior researcher founds his or her own high-tech company on the basis of the knowledge he or she developed in the framework of his or her doctoral studies.

At present, it is difficult for young doctors to join research groups. European projects are the best option, yet they only provide employment for three years. In those three years, perhaps an assistant spot at the university or a position on a research group at an institute will open up, or, as is most often the case, the research group will get a new European project and will need a researcher for three more years. This is the uncertain situation in which a number of young doctors find themselves. And it is unacceptable for young female researchers, as the period after one's doctorate is also the time when one focuses on creating a home and a family. This is likely also one of the most important causes of the so-called glass ceiling effect. While women have achieved considerable gains in participation in pedagogic and research work, fewer gains have been made in the field of career advancement.

In general, the current time of crisis can be said to be a watershed moment not only for young scientists, but also for their older colleagues and even for the social subsystem of science as a whole. Namely, science can no longer avoid its share of responsibility for social advancement. Furthermore, with their knowledge, initiative and responsibility, scientists are expected to make a key contribution to exiting this crisis. We will achieve this through the dedicated and innovative scientific work that crowns today's Award winners.

I sincerely congratulate them on their achievements!

Professor dr Tadej Bajd
President of the Slovenian Academy of Sciences and Arts