

Introduction

Dear readers,

The Society of the Czech and Slovak medical biophysicists belongs among those scientific groups from former Czechoslovakia that deepen their contacts even in the third decade after splitting the formerly common state into two sovereign countries, Slovakia and the Czech Republic. This is an obvious sign for both excellent interpersonal relationships and also for mutual advantage taken by biophysical groups on medical faculties from their cooperation. There is undoubtedly a great honor for us to have been appointed as Guest Editors for the special issue of the *Physiological Research*. This supplement is devoted to the scientific work at eleven Czech and Slovak medical faculties.

There was sometimes an uneasy role for us to select manuscripts for publication, simply due to a significant diversity of scientific interests and, sometimes, also due to a rather low experience with publication of primary research publications. This is surely understandable for those groups which are predominantly involved in data collection, processing and analysis as well as in the improvement of equipment used in everyday clinical practice in hospitals. This is naturally the most important role of medical biophysics for clinical medicine. However, this supplement has to convince the readers about a good science produced in the majority of biophysical laboratories in the Czech and Slovak Republics.

We highly appreciate the decision of the Editorial Board of *Physiological Research* to provide the readers with a closer look into the research performed in the top biophysical laboratories at Slovak and Czech medical faculties. We, as Guest Editors of this supplement of *Physiological Research*, have been pleased to see the scientific progress of the Czech and Slovak medical biophysics during the last decade. Indeed, this *Physiological Research* supplement is already the second condensed insight into the Czech and Slovak biophysical scientific work at medical faculties. The first one has been published 12 years ago at the same journal. It is worth to mention that some of those contributions have been highly cited.

Despite the obvious conservatism in the research topics, the contemporary Slovak and Czech medical

biophysics has undoubtedly developed since that time. Beside of traditional interest in medical equipment and novel examination techniques, there is a clear sign of the interest in novel methods for cancer treatment, highly sensitive detection of serious diseases at their early stages, regenerative medicine and also in the development of controlled drug delivery systems. Clearly, contemporary biophysics can bring a significant additional value towards the development of novel technologies and nanobiotechnologies which belong surely among hot medical topics. Consequently, the improved treatment and early detection of serious diseases might be a novel element of the biophysical research at the Czech and Slovak medical faculties, attracting the attention of a broader international scientific community. Another significant sign of the further development of biophysical society is a current degree of cooperation with other laboratories from outside of biophysical field as well as from abroad. This supplement reflects the deepening of cooperation with veterinary medicine and pharmacology as well as the opening of cooperation on the European level. This is a natural reflection of the fact that four laboratories participate at the European COST H2020 Program and, in addition, two group leaders are the Czech and Slovak national chairmen for this European Program. The internationalization is inevitable for a high quality science and, as this supplement has documented, the medical biophysicist from Slovakia and Czech Republic are well on track to reach a high international reputation shortly. We are convinced that this supplement will serve for the strengthening of ongoing cooperation. Moreover, we also believe that the supplement will promote the skill and experience of the Czech and Slovak medical biophysical groups in a broader scientific community. This could lead towards new cooperation and further improving of the already good image of the Slovak and Czech medical biophysics.

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