



# ENERGY AND ENVIRONMENT IN THE PROBLEMS OF INTERNATIONAL COMPETITIONS FOR TALENTED STUDENTS

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## Introduction

Nowadays many countries, including Czech Republic, are facing the problem of the lack of students in the field of science, technology engineering and mathematics (STEM). However, having experts in these fields is crucial for the development of modern societies, in particular in the field of energy sources and environment protection. The promotion of students' interest is therefore of particular importance to lead them to a future career choice in the field.

In order to excel in STEM, it is not enough to attend the school have excellent results there. Talent needs to be recognized at the earliest possible age and systematically and individually addressed. This requires a number of factors, the most important of which are the talent search system, a quality talent development system, a qualified 'coaching staff' and a motivation system. The system of competitions for gifted pupils and students can play a crucial role in it. Good competition is not just about setting up problems or tasks and organizing them. The main aim of the competition must be motivation to the education of gifted individuals.

The motivation for writing the chapter on this topic was to summarize our experiences and knowledge from two international Olympiads for talented students – International Physics Olympiad (IPhO) and European Union Science Olympiad (EUSO). One of the authors (JK) has been the leader or mentor of the Czech delegation on these competitions since 2007.

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## **Conclusions**

In this work we focused on competitions for talented students mainly in physics, but also in science in general, technology, engineering and mathematics. We have presented several examples of recent Olympiad problems concerning the topic of energy and environment.

**Keywords:** Energy, environment, international competitions

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