A Word from the Editors

All the papers in this issue of the JIOS Journal may fit into the *Science as Usual* category and are therefore not going to be dealt with in detail in the introduction. However, for one of the papers included an exception has been provided, namely the paper *Sigma-notation and the equivalence of P and NP classes* by Miron Ivanovich Telpiz. The circumstances leading to its publication in this issue of JIOS are presented by the editors in this preface.

It is generally acknowledged that, ever since it was defined by S. Cook over thirty years ago, P = NP has presented one of the major open problems in computing science and information science in general. Whereas, on one hand, this problem presents a formidable challenge to any scientist dealing with it, its solution, especially in case it should turn out to be a positive one − considering that current technology tends to evolve in a practical direction and its overall functioning is conducted implicitly under the assumption of a negative solution − would have a major impact on the development of information technology as well as the wider context of human society as a whole. Apart from being put forward in conferences, both positive and negative "solutions" to P = NP problem can be occasionally found in press, scientific and professional journals. The web page titled "P-versus-NP Page" (see http://www.win.tue.nl/~gwoegi/P-versus-NP.htm) provides an excellent source for this issue. It contains links to papers stating that P = NP, as well as those contradicting the opposite, i.e., stating that P ≠ NP. Furthermore, references are given to Oded Goldreich's rationale behind his decision not to review papers proposing solutions to P = NP problem and related *difficult* problems because, in his own words, they "*also attract the attention of non-experts, and one annoying consequence is a flood of false claims of resolutions of these problems*" (see http://www.wisdom.weizmann.ac.il/~oded/faq.html). Dr. Goldreich − a recognised figure among mathematicians of our time – recommends other scientists to follow his example when this issue is concerned. Nevertheless, his arguments (at least those regarding non-experts) are definitely not to be acknowledged in the case of the work of the Russian mathematician and logician Miron Ivanovich Telpiz, (see http://www.tarusa.ru/~mit/ENG/eng.php for details), who has been developing his positionality theory for functions, with a special emphasis on Boolean functions, for over two decades. While doing so, he has been drawing its (primarily conceptual) analogy to positionality theory for number systems. Building on his extensive theory, which is combinatory very complex one indeed, Dr. Telpiz states the proof of P = NP. The underlying theory itself was proposed in the first volume of his book *Positionality principle for notation and calculation the functions,* originally published in Russian by the *Institute of Space Researches of the Russian Academy of Science.* It was due to this book that contacts between a member of the Editorial Board and Dr. Telpiz, as well as Dr. Andrej Fomin, his assistant and associate, were established. During those contacts the idea evolved of Dr. Tepiz delivering an invited lecture at the IIS2004 Conference. Annual IIS Conferences have been organized by the Faculty of Organization and Informatics for years. A lecture on proving the statement P = NP was arranged. Unfortunately, Dr. Telpiz was eventually not capable of giving the lecture. Nevertheless, he proposed for his lecture to be published in form of an article in the JIOS Journal. Upon receiving the Russian version of his article named *Sigma-notation and the equivalence of P and NP classes*, the Editorial Board had it translated into English and proceeded to having it reviewed. The paper was sent to several renowned world experts in the field of Boolean functions, mathematical logic and algorithm theory for review. Yet, no response was received from reviewers contacted although the Editorial Board and Dr. Telpiz made efforts

for access to all relevant papers, as well as the book itself, to be possible. Bearing in mind not only the great relevance of P = NP problem but also the constant need for scientific ideas and findings to be disseminated, the JIOS Editorial Board has decided to have Dr. Telpiz's paper published although it had not been officially reviewed, which the author himself has consented to in writing. Owing to its inclusion in this issue, the paper is being presented to a wider scientific and professional audience who are thus given an opportunity to both consider and assess it from their own perspective.

Editors