

Foreword

Time flies like an arrow

A popular example from the world of Artificial Intelligence (and Computational Linguistics), the phrase “Time flies like an arrow” is used to illustrate the ambiguity of language and the difficulty in comprehending structure. As a metaphor, it expresses how quickly time passes. Study the syntax and you can argue that it’s an instruction to record the movement of flies (perhaps in the manner of an arrow, or only those that are similar to arrows), a description as to the preferences of a breed of fly, etc.... Some interpretations have meaning, others less so, but underlying this is the message that something apparently straightforward can have multiple meanings, nuances, interpretations. An unexpected depth of meaning within a simple form.

IO

IO – Informatics Olympiads. For those of us involved with national and international olympiads there are numerous reasons why we got involved. For some, it has been the challenge of competing: an opportunity to flex the intellectual muscles, a delight in problem solving or even the pleasure of pushing yourself against other similarly minded individuals. For others, it is the academic pursuit as the olympiads provide a mechanism for learning and teaching: a way to practice skills and infuse knowledge; a way to demonstrate that knowledge, skill and application to the wider world. Perhaps for others it is the sense of community: fellow students, fellow educators, competitors and friends. All of this before we even ask the question as why we stay involved.

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There are, so says the old joke, **10** types of people in the world – those who understand binary and those who do not. In our modern world it is increasingly important to be amongst those who understand. If we go back to the first days of the IOI, computer science was still a specialist pursuit. We had had a decade of home computers, so computers were accessible to many, and computing was appearing school curricula, but unless you took an interest your exposure could be fleeting. We now exist in a world where people carry powerful computers in their pockets – ask yourself how many of the competitors at this year’s IOI carry a phone but do not wear a watch. So many facets of daily life aided by computer programs, a many-headed beast that demands constantly to be

fed. It is not just teaching individuals how to program, most people will never write or need to write a line of code, but an understanding of what is happening inside the black box – how things work, what is feasible, knowing what is going wrong to know how to make things right – is an important skill.

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This is the **10th** year for the *Olympiads in Informatics* journal. The first year when we have publishing two volumes, as we are delighted to publish a special volume celebrating the informatics education of our host – special thanks is given to the guest editor Marina Tsvetkova. We have published a total of 185 papers showcasing 200 authors from 50 countries. Technical papers and country reports. Algorithms and tasks. Reviews and opinions. The format of the journal is very similar to those early days; a forum for those in the community to write about specialised technical issues, an opportunity to share our experiences and knowledge, and to give freedom for those who are not academics to talk about their work. Looking back with the benefit of hindsight we might have developed the journal in a different direction but, with that same knowledge, we can say that we have fulfilled (in the most part) the vision and aims that we had when first establishing the conference.

Things are not always as they seem; it certainly does not seem like 10 years already. Time flies like an arrow indeed.

There are individuals without whose tireless work this volume of the journal – indeed every volume of the journal – would not exist. As always, thanks are due to all those who have assisted with the current volume – authors, reviewers and editors. A lot of work goes, not only to the writing of the papers, but to an extended period of review and correction and, in several cases, translation. Peer viewing all of the papers takes a significant amount of time and work and special thanks should be given to those otherwise unsung reviewing heroes: Benjamin Burton, Sébastien Combéfis, Walter Gander, Gintautas Grigas, Mathias Hiron, Ville Leppänen, Päivi Kinnunen, Jari Koivisto, Krassimir Manev, Martinš Opmanis, Rein Prank, Jūratē Skūpienē, Peter Taylor, Ahto Truu, Willem van der Vegt. Particular thanks are due to the organisation committee for IOI'2016 in Russia without whose assistance we would be unable to hold the conference. Their assistance, during what is an already busy period, is gratefully received.

Editors