Words, Graphs, Automata, and Languages

Special Issue Honoring the 60th Birthday of Professor Tero Harju

This special issue celebrates the 60th birthday of Professor Tero Harju (the actual birthday date is June 28, 2012). It consists of 20 original contributions written by his friends, colleagues and former students.

The topics of this issue cover a broad spectrum of theoretical computer science and discrete mathematics, from automata theory via combinatorics on words to biomodelling - this coverage reflects an impressive range of scientific interest and research contributions by Tero. He made impressive scientific contributions to many research areas including formal languages and automata theory, combinatorics on words, semigroup theory, computability theory, DNA computing, and biomodelling. Many of his results belong to highlights of those areas. His contributions to science are twofold: he solved many very challenging technical problems and he was also instrumental in shaping new research directions. One can mention here his solutions of famous open problems such as the equivalence problem of multitape finite automata and Duval's conjecture on periodicity of words as examples of the former, and his work on regularity of splicing systems and the work on a formal framework for gene assembly in cilliates as examples of the latter.

Tero is a Full Professor in the department of mathematics of University of Turku, Finland, and a member of Finnish Academy of Sciences. Although he stayed at a number of scientific institutions abroad, his real nest is the combination of the department in Turku and his home in Lieto, not far from Turku. Still, thanks to the Internet and many travels to conferences where he presents his results, he has an impressive number of co-authors, mostly in Europe and North America.

All four of us have extensive experience of working with Tero. The working sessions are long and intense, but they are often punctuated by bursts of laughing when Tero utters one of his one-liners: he has a wonderful sense of dry intellectual humor. Another characteristic feature of Tero is his remarkable modesty - he just lets his results speak for him. No wonder that Tero is popular in the scientific community - the response to our call for papers to this special issue was enthusiastic indeed.

We are grateful to all who contributed to the production of this special issue: the authors, the reviewers, the FI editor-in-chief Damian Niwinski, and also to Dr. Arto Lepistö for his professional help in getting this issue in a good "technical shape".

We, a mentor, a friend and a professional colleague, and two former students of Tero, feel privileged by having an opportunity to edit this issue as a tribute (and an expression of friendship, respect and admiration) to a top scientist.

Happy Birthday dear Tero,

Vesa Halava (University of Turku)
Juhani Karhumäki (University of Turku)
Dirk Nowotka (Kiel University)
Grzegorz Rozenberg (Leiden University)