

From mathematical beauty to the truth of nature: to Jerzy Tiuryn for his 60th birthday

Preface

*“Beauty is truth, truth beauty” that is all
Ye know on earth, and all ye need to know.
John Keats*

This special issue is dedicated to Jerzy (or, as his friends call him, Jurek) Tiuryn on the surprising occasion of his 60th birthday, to be celebrated on the 3rd of December, 2010.

Jurek’s scientific work belongs to two centuries and indeed can be divided into two parts: the 20th century theory of programs, and the 21st century computational biology.

His PhD thesis (completed in 1975 within one year after his Masters – a remarkable achievement) was written under the supervision of professor Helena Rasiowa, the founder of *Fundamenta*, and addressed algebraic methods in computation theory. Until the end of 20th century, broadly understood logics of programs turned to be Jurek’s principal scientific objective. He contributed greatly to the theory of Hoare logic and then various dynamic logics, especially of first-order. The study of expressive power of dynamic logics led him to complexity-theoretic methods now recognized as part of early finite model theory. Since about 1987, Jurek’s attention turned toward functional programming, type-inference and lambda-calculus.

With the birth of the new century we have seen a rebirth of Jerzy. Computational biology gives Jurek the possibility to contemplate the beauty of life and the origin of human complexity. Jurek’s interests include molecular sequence analysis and protein folding; he studied intensively the extremely complex and intriguing process of gene regulation. Motivated by Piotr Słonimski, Jurek worked on molecular evolution and phylogenetics, enriching them with mathematical strictness.

Several qualities contributed to his professional success: ingenious insight, determination and rare sense of scientific purpose and precision. Whatever he does, Jurek contributes in the field of his research not only by obtaining important results himself. He works with other people (he had almost 40 co-authors, and 13 PhD students) and his additional contribution is the inspiration offered to co-workers and students, and his unique “do as I do” leadership style. The editors of this volume admit that they gained a lot themselves from the interaction with Jurek. The great pleasure and satisfaction of working

with Jurek is often reinforced by joint non-professional activities like mountains climbing or visiting his countryside cottage to savour the beauty of nature.

This issue consists of 16 papers written by several Jurek's former students and co-authors. The variety of topics and styles corresponds very well to the variety of Jurek's own interests and achievements. We dedicate this collection to Jurek together with our best birthday greetings.

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