

## **From mathematical beauty to the truth of nature: to Jerzy Tiuryn on his 60th birthday**

### **Preface**

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*„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 special occasion of his 60th birthday, to be celebrated on the 3rd of December, 2010.

Jurek’s scientific work spans 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, which he completed in 1975 within one year of 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 the 20th century, the broadly understood logics of programs turned out to be Jurek’s principal scientific objective. He contributed greatly to the theory of Hoare logic and various other dynamic logics, especially first-order dynamic logic. The study of the expressive power of dynamic logics led him to the complexity-theoretic methods now recognized as part of early finite model theory. From about 1987, Jurek’s attention turned toward functional programming, type-inference and lambda-calculus.

The birth of the new century also saw a reborn Jerzy. Computational biology offered Jurek the opportunity to contemplate the beauty of life and the origin of human complexity. Jurek’s interests include molecular sequence analysis and protein folding, and he has studied the extremely complex and intriguing process of gene regulation intensively. Motivated by Piotr Slonimski, Jurek has worked on molecular evolution and phylogenetics, enriching them with mathematical strictness.

Several qualities have contributed to his professional success: ingenious insight, determination and a rare sense of scientific purpose and precision. Whatever he does, Jurek contributes to the field of his research not only by obtaining important results himself, but also by collaboration with others (he has had almost 40 co-authors, and 13 PhD students). His additional contribution is the inspiration he has offered to co-workers and students, and his unique ‘do as I do’ leadership style. The editors of this volume acknowledge that they have themselves gained much from their interactions with Jurek.

The great pleasure and satisfaction of working with Jurek is often enhanced by participation in extra-curricular activities like mountain climbing or visiting his country cottage to savor the beauty of nature.

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

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