

## Preface

### Tribute to Michael Waterman on His 67th Birthday



It is with great delight that we dedicate this volume of Communications in Information and Systems to Professor Michael Waterman on the occasion of his 67th birthday.

There is an evolutionary trajectory of theories, collaborations, and mentoring in an enchanting environmental niche that reaches to one common-ancestor node. It was John von Neumann who proposed a research program aimed at a new computation and information theory essential for modeling the biological systems of the cell. The overarching goal of his new theory was the unification of continuous and discrete mathematics via the concept of statistical thermodynamic error. The two pil-

lars to be unified via mathematics of statistical physics were continuous mathematics, namely mathematical analysis, "the technically most successful and best-elaborated part of mathematics," and discrete mathematics, which "deals with rigid, all-or-none concepts, and has very little contact with the continuous concept of the real or complex number technically most refractory parts of mathematics by the nature of its approach, cut off from the best cultivated portions of mathematics, and forced onto the most difficult part of mathematical terrain, into combinatorics."

It just so happened that John von Neumann brought Stan Ulam to New Mexico, Stan Ulam brought Bill Beyer to New Mexico, Bill Beyer brought Michael Waterman to New Mexico, and Michael Waterman brought many of us to New Mexico when in 1997 he started the Annual International Conference on Research in Computational Biology, the RECOMB Conference. Carrying the torch from mathematicians in love with biology at the end of the 20th century and the start of the 21st, Michael Waterman stood there at the first RECOMB conference in Santa Fe, surrounded by Bill Beyer and Nick Metropolis, two surviving members of the greatest generation of mathematicians in residence in New Mexico, the Land of Enchantment, and declared: "This volume [the first RECOMB Proceedings] is proof positive of the vitality of a new discipline: computational biology."

The collection of papers in the present volume is indeed a beautiful exemplification of Mike Waterman's pioneering influence, trailblazing new areas of research