English summaries

Rosario Delgado

Mathematics and the Internet: 101 years of queueing theory

Unprecedented in growth, with no parallels in heterogeneity, and unpredictable or even chaotic in its behaviour, "The Internet is a revolution in itself" (in the words of Anthony-Michael Rutkowski, named executive director of the Internet Society in 1994). In this paper we will look at how and why traffic information through the Internet differs in fundamental aspects from the voice traffic through conventional communications networks (fixed telephony), and we introduce a mathematical model that represented a milestone in teletraffic engineering.

Jesús Fernández-Sánchez

Invariants: an approach from algebra to phylogenetics

In the last years, a new approach to phylogenetic reconstruction based on techniques coming from algebra has been consolidating. Given an evolutionary model for a given set of species, the invariants are algebraic relations satisfied by the theoretical distributions of the nucleotides of these species. In this paper we show how to use these invariants to design algorithms for phylogenetic reconstruction and we explain how the efficiency of these algorithms can benefit from results based on algebraic geometry and the representation theory of groups.

Josep Pla i Carrera

Presentation and analysis of the «Suma de la art de arismetica» by Francesc Santcliment. Second part

The first part of this paper was published in number 1 of the same volume. The overall goal of the paper is to present an analysis of the arithmetical and commercial contents of the book *Suma de la art de arismetica*, a commercial arithmetic written in Catalan by *Francesc de Santcliment* and published in Barcelona in 1482. This goal is achieved in this second part, which completes and complements the first one, and closes the paper.