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Preface

The articles contained in this issue of *Fundamenta Informaticae* are final, revised versions of selected papers presented at the 4th International Conference "Typed Lambda Calculi and Applications" (TLCA'99), held in L'Aquila, Italy from 7 to 9 April, 1999. Preliminary versions of these papers were published in Lecture Notes in Computer Science, vol. 1581, Springer-Verlag, Berlin, 1999. Papers selected to appear in this issue, after being revised and in most cases significantly expanded, were subject to a full journal refereeing process.

The contributions to this special issue represent a wide spectrum of research in the area of lambda calculus and related subjects. The paper "Elementary complexity and geometry of interaction" of Patrick Baillot and Marco Pedicini introduces a model for Elementary Linear Logic based on Geometry of Interaction with *weak execution*. Sabine Broda and Luís Damas in their article "Counting a type's (principal) inhabitants" propose an algorithm which, for a given simple type τ , determines the number of normal forms whose principal type is τ. René David introduces a technique to study head reductions and his article "Computing with Böhm trees" uses this technique e.g. to solve an open problem concerning unsolvable terms.

Masahiko Sato, Takafumi Sakurai and Rod Burstall in their paper "Explicit environments" extend the notion of an explicit substitution to an *explicit environment* which becomes a first class object in their variant of lambda calculus. Richard Statman in the short note "Marginalia to a theorem of Jacopini" proves the existence of *easy equations* (equations consistent with an arbitrary consistent lambda theory). The last paper of this issue: "Strong normalization of cut-elimination in classical logic", by Christian Urban and Gavin M. Bierman, gives a new strong normalization procedure for classical sequent calculus.

The Editors are very grateful to the authors for submitting their papers and to the referees for their useful criticism.

Jean-Yves Girard & Paweł Urzyczyn
Special Issue Editors