

# Lecture Notes in Computer Science

Edited by G. Goos and J. Hartmanis

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N. Dershowitz (Ed.)

## Rewriting Techniques and Applications

3rd International Conference, RTA-89  
Chapel Hill, North Carolina, USA  
April 3–5, 1989  
Proceedings

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## PREFACE

This volume contains the proceedings of the **Third International Conference on Rewriting Techniques and Applications (RTA-89)**. The conference was held April 3-5, 1989, in Chapel Hill, North Carolina, U.S.A. Professor Garrett Birkhoff of Harvard University delivered an invited lecture.

The two previous conferences were held in France:

- Dijon, May 1985 (*Lecture Notes in Computer Science* **202**, Springer-Verlag);
- Bordeaux, May 1987 (*Lecture Notes in Computer Science* **256**, Springer-Verlag).

For the third conference, papers were solicited in the following (or related) areas:

|                                |                                     |
|--------------------------------|-------------------------------------|
| Term rewriting systems         | Symbolic and algebraic computation  |
| Conditional rewriting          | Equational programming languages    |
| Graph rewriting and grammars   | Completion procedures               |
| Algebraic semantics            | Rewrite-based theorem proving       |
| Equational reasoning           | Unification and matching algorithms |
| Lambda and combinatory calculi | Term-based architectures            |

The 34 regular papers in this volume were selected from 84 submissions by a ten-member committee, consisting of the following individuals:

|                               |                             |
|-------------------------------|-----------------------------|
| Bruno Courcelle (Bordeaux)    | Deepak Kapur (Albany)       |
| Nachum Dershowitz (Urbana)    | Claude Kirchner (Nancy)     |
| Jean Gallier (Philadelphia)   | Jan Willem Klop (Amsterdam) |
| Jieh Hsiang (Stony Brook)     | Dallas Lankford (Ruston)    |
| Jean-Pierre Jouannaud (Orsay) | Mark Stickel (Menlo Park)   |

Each paper was graded by two to six people (committee members and outside referees).

Also included in this volume are short descriptions of a dozen of the implemented equational reasoning systems demonstrated at the meeting.

Local arrangements were organized by:

David A. Plaisted  
Department of Computer Science  
University of North Carolina at Chapel Hill  
Chapel-Hill, NC 27599  
U.S.A.

The meeting was in cooperation with the Association for Computing Machinery and received support from the University of Illinois at Urbana-Champaign and the University of North Carolina at Chapel Hill.

Nachum Dershowitz  
Program Chairperson

The committee acknowledges the help of the following referees:

|                      |                        |
|----------------------|------------------------|
| Leo Bachmair         | A. Megrelis            |
| J. C. M. Baeten      | Yves Metivier          |
| M. Bezem             | Aart Middeldorp        |
| Maria Paola Bonacina | David Musser           |
| Alexandre Boudet     | Paliath Narendran      |
| Hans-Jürgen Burckert | Tobias Nipkow          |
| Robert Cori          | Friedrich Otto         |
| Hervé Devie          | Uday Reddy             |
| François Fages       | Jean-Luc Rémy          |
| Isabelle Gnaedig     | Michael Rusinowitch    |
| Miki Hermann         | Manfred Schmidt-Schauß |
| Bharat Jayaraman     | Sabine Stifter         |
| Simon Kaplan         | Jonathan Stillman      |
| Stéphane Kaplan      | F.-J. de Vries         |
| Hélène Kirchner      | R. C. de Vrijer        |
| Pierre Lescanne      | Hantao Zhang           |
| D. Luggiez           |                        |

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