

## Preface

For the past 25 years the CADE conference has been the major forum for the presentation of new results in automated deduction. This volume contains the papers and system descriptions selected for the 17th International Conference on Automated Deduction, CADE-17, held June 17-20, 2000, at Carnegie Mellon University, Pittsburgh, Pennsylvania (USA).

Fifty-three research papers and twenty system descriptions were submitted by researchers from fifteen countries. Each submission was reviewed by at least three reviewers. Twenty-four research papers and fifteen system descriptions were accepted. The accepted papers cover a variety of topics related to theorem proving and its applications such as proof carrying code, cryptographic protocol verification, model checking, cooperating decision procedures, program verification, and resolution theorem proving.

The program also included three invited lectures: “High-level verification using theorem proving and formalized mathematics” by John Harrison, “Scalable Knowledge Representation and Reasoning Systems” by Henry Kautz, and “Connecting Bits with Floating-Point Numbers: Model Checking and Theorem Proving in Practice” by Carl Seger. Abstracts or full papers of these talks are included in this volume. In addition to the accepted papers, system descriptions, and invited talks, this volume contains one page summaries of four tutorials and five workshops held in conjunction with CADE-17.

The CADE-17 ATP System Competition (CASC-17), held in conjunction with CADE-17, selected a winning system in each of four different automated theorem proving divisions. The competition was organized by Geoff Sutcliffe and Christian Suttner and was overseen by a panel consisting of Claude Kirchner, Don Loveland, and Jeff Pelletier. This was the fifth such competition held in conjunction with CADE. Since the contest was held during the conference the winners were unknown as of this printing and the results are not described here.

I would like to thank the members of the program committee and all the referees for their care and time in selecting the submitted papers. I would also like to give a special thanks to Bill McCune for setting up and maintaining the web site for the electronic program committee meeting.

April 2000

David McAllester

## Conference Organization

<b>Program Chair</b>	David McAllester, AT&T Labs-Research
<b>Conference Chair</b>	Frank Pfenning, Carnegie Mellon University
<b>Workshop Chair</b>	Michael Kohlhase, Universität des Saarlandes
<b>System Competition Chair</b>	Geoff Sutcliffe, James Cook University

### Program Committee

Hubert Comon (Cachan)	Mike Gordon (Cambridge)
Paliath Narendran (Albany)	David Plaisted (Chapel Hill)
David Dill (Palo Alto)	Tom Henzinger (Berkeley)
Robert Nieuwenhuis (Barcelona)	Amir Pnueli (Rehovot)
Ulrich Furbach (Koblenz)	Deepak Kapur (Albuquerque)
Tobias Nipkow (Munich)	Mark Stickel (Menlo Park)
Harald Ganzinger (Saarbrücken)	Ursula Martin (St Andrews)
Hans de Nivelle (Saarbrücken)	Moshe Y. Vardi (Houston)
Didier Galmiche (Nancy)	Ken McMillan (Berkeley)
Larry Paulson (Cambridge)	Andrei Voronkov (Manchester)

### CADE Trustees

Maria Paola Bonacina (Secretary)	University of Iowa
Uli Furbach (President)	University of Koblenz
Harald Ganzinger	Max Plank Institute, Saarbrücken
Claude Kirchner	LORIA, INRIA
David McAllester	AT&T Labs-Research
William McCune	Argonne National Laboratory
Neil Murray (Treasurer)	SUNY at Albany
Tobias Nipkow	Technische Universität München
Frank Pfenning (Vice President)	Carnegie Mellon University
David Plaisted	University of North Carolina, Chapel Hill
John Slaney	Australian National University

**Referees**

Tamarah Arons	Robert B. Jones	Sitvanit Ruah
Clark Barrett	Yonit Kesten	Axel Schairer
Peter Baumgartner	Gerwin Klein	Renate Schmidt
Gertrud Bauer	Konstantin Korovin	Philippe Schnoebele
Adam Cichon	Keiichirou Kusakari	Elad Shahar
Witold Charatonik	Raya Leviatan	Ofer Shtrichman
Ingo Dahn	Ian Mackie	G. Sivakumar
Anatoli Degtyarev	Rupak Majumdar	Viorica Sofronie-Stokkermans
Grit Denker	Fred Mang	Dick Stearns
Dan Dougherty	Claude March	Frieder Stolzenburg
Alain Finkel	R. C. McDowell	Jürgen Stuber
Dana Fisman	D. Mery	Yoshihito Toyama
Laurent Fribourg	Robin Milner	Rakesh Verma
Juergen Giesl	Marius Minea	Bob Veroff
Andy Gordon	Michael Norrish	David von Oheimb
Enrico Guinchiglia	Jens Otten	Uwe Waldmann
Andrew Haas	Nicolas Peltier	Christoph Weidenbac
Ian Horrocks	Leonor Prensa-Nieto	Markus Wenzel
Joe Hurd	Alexandre Riazanov	Benjamin Werner
Paul Jackson	C. Ringeissen	

**Previous CADEs**

CADE-1, Argonne National Laboratory, USA, 1974  
 CADE-2, Oberwolfach, Germany, 1976  
 CADE-3, MIT, USA, 1977  
 CADE-4, University of Texas at Austin, 1979  
 CADE-5, Les Arcs, France, 1980 (Springer LNCS 87)  
 CADE-6, Courant Institute, New York, 1982 (Springer LNCS 138)  
 CADE-7, Napa, California, 1984 (Springer LNCS 170)  
 CADE-8, University of Oxford, UK, 1986 (Springer LNCS 230)  
 CADE-9, Argonne National Laboratory, USA, 1988 (Springer LNCS 310)  
 CADE-10, Kaiserslautern, Germany, 1990 (Springer LNAI 449)  
 CADE-11, Saratoga Springs, New York, 1992 (Springer LNAI 607)  
 CADE-12, Nancy, France, 1994 (Springer LNAI 814)  
 CADE-13, Rutgers University, USA, 1996 (Springer LNAI 1104)  
 CADE-14, James Cook University, Australia, 1997 (Springer LNAI 1249)  
 CADE-15, Lindau, Germany, July 6-10, 1998. (Springer LNAI 1421)  
 CADE-16, Trento, Italy, July, 1999. (Springer LNAI 1632)

Automated Deduction - CADE-17

17th International Conference on Automated Deduction

Pittsburgh, PA, USA, June 17-20, 2000 Proceedings

McAllester, D. (Ed.)

2000, XIV, 526 p., Softcover

ISBN: 978-3-540-67664-5