

## Foreword

This volume contains papers selected for presentation at the 26th International Symposium on Mathematical Foundations of Computer Science – MFCS 2001, held in Mariánské Lázně, Czech Republic, August 27 – 31, 2001.

MFCS 2001 was organized by the Mathematical Institute (Academy of Sciences of the Czech Republic), the Institute for Theoretical Computer Science (Charles University, Faculty of Mathematics and Physics), the Institute of Computer Science (Academy of Sciences of the Czech Republic), and Action M Agency. It was supported by the European Research Consortium for Informatics and Mathematics, the Czech Research Consortium for Informatics and Mathematics, and the European Association for Theoretical Computer Science. We gratefully acknowledge the support of all these institutions.

The series of MFCS symposia, organized on a rotating basis in Poland, Slovakia, and the Czech Republic, has a well-established tradition. The aim is to encourage high-quality research in all branches of theoretical computer science and bring together specialists who do not usually meet at specialized conferences. Previous meetings took place in Jabłonna, 1972; Štrbské Pleso, 1973; Jadwisin, 1974; Mariánské Lázně, 1975; Gdańsk, 1976; Tatranská Lomnica, 1977; Zakopane, 1978; Olomouc, 1979; Rydzina, 1980; Štrbské Pleso, 1981; Prague, 1984; Bratislava, 1986; Karlovy Vary, 1988; Porąbka-Kozubník, 1989; Banská Bystrica, 1990; Kazimierz Dolny, 1991; Prague, 1992; Gdańsk, 1993; Košice, 1994; Prague, 1995; Kraków, 1996; Bratislava, 1997; Brno, 1998; Szklarska Poręba, 1999; and Bratislava, 2000.

It is our pleasure to announce that at the opening of MFCS 2001, Dana Scott (Carnegie-Mellon Univ., Pittsburg, PA, U.S.A.) was awarded the Bolzano Honorary Medal of the Academy of Sciences of the Czech Republic for his contribution to the development of theoretical computer science and mathematics in general and his cooperation with Czech scientists in particular.

The MFCS 2001 proceedings consist of 10 invited papers and 51 contributed papers. We are grateful to all the invited speakers for accepting our invitation and sharing their insights on their research areas. We thank the authors of all submissions for their contribution to the scientific program of the meeting.

The contributed papers were selected by the Program Committee out of a total of 118 submissions. All submissions were evaluated by three or four members of the committee, with the assistance of referees, for a total of more than 450 reports. After electronic discussions, the final agreement was reached at the selection meeting in Prague on May 11–12, 2001 (the program committee members denoted by \* in the list below took part in the meeting). We thank all the program committee members and referees for their work which contributed to the quality of the meeting. We have tried to make the list of referees as complete and accurate as possible and apologize for any omissions and errors.

Special thanks go to Jochen Bern who provided a reliable software system used for electronic submissions and reviewing (tested before on STACS 1999 through 2001), and volunteered a fair amount of his night-time to maintain and further improve the system according to our unrealistic specifications and expectations.

Finally, we would like to thank Milena Zeithamlová, Lucie Váchová, and Andrea Kutnarová from Action M Agency for their excellent work on local arrangements.

We wish MFCS 2002, to be held in Warsaw, success and many excellent contributions.

June 2001

Jiří Sgall  
Aleš Pultr  
Petr Kolman

## Program Committee

Manfred Broy (TU Munich)  
Harry Buhrman (CWI, Amsterdam)  
Anne Condon (Univ. of British Columbia, Vancouver)  
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Moti Yung (Columbia Univ., New York).

## Referees

E. Allender	J. Fiala	V. Kůrková
A. Ambainis	E. Fischer	M. Kutylowski
K. Ambos-Spies	S. Fishman	J. van Leeuwen
G. Ankoudinov	T. Fleiner	H. Lefmann
P. Auer	J. Flum	M. Lenisa
R. Babilon	J. Forster	S. Leonardi
J. Baldwin	L. Fortnow	A. Lepistö
K. Balinska	K. Friedl	Z. Liptak
R. Beigel	W. Gasarch	L. P. Lisovik
A. Benczur	S. Gerke	S. Lucks
T. Bernholt	O. Giel	H. Lötzbeyer
M. Bläser	A. Goerdt	S. P. Mansilla
J. Bloemer	M. Goldmann	J. Manuch
H. L. Bodlaender	V. Grolmusz	M. Mareš
B. Bollig	P. Hajnal	J. Marino
D. Bongartz	V. Halava	J. Matoušek
A. Brodsky	T. Harju	R. Mayr
H. Broersma	J. Hastad	J. McKinna
R. Bruni	P. Hell	W. Merkle
P. Buergisser	U. Hertrampf	S. Merz
H.-J. Böckenhauer	V. Heun	M. Michal
P. Callaghan	J. Hillston	B. Moeller
C. S. Calude	M. Hirvensalo	T. Morzy
O. Carton	J.-H. Hoepman	A. Muscholl
B. Chlebus	T. Hofmeister	R. Neruda
K. Chmiel	J. Honkala	T. Nipkow
J. Chrzaszcz	H. Hoogeveen	D. Niwinski
M. Cieliebak	R. Jacob	T. Noll
J. Csirik	A. Jakoby	J. C. Oostveen
L. Csirmaz	T. Jansen	L. Paolini
F. Cucker	M. Jerrum	M. Parente
C. Damm	S. Jukna	P. Penna
S. V. Daneshmand	M. Kaminski	P. Jeavons
G. Delzanno	J. Kari	A. Petit
J. Díaz	M. Karpinski	T. Petkovic
S. Dobrev	H. Klauck	J.-E. Pin
W. Doerner	B. Klinz	T. Pitassi
M. Drmota	T. Knapik	T. Polzin
S. Droste	P. Koiran	C. Pomm
L. Epstein	P. Kolman	K. Pruhs
M. Escardo	J. Krajíček	P. Pudlák
Z. Esik	I. Kramosil	R. Raz
J. Esparza	A. Królikowski	O. Regev
S. Fekete	Z. Królikowski	R. Reischuk

R. Renner	A. Simpson	K. Tinnefeld
L. Ronyai	P. Siwak	G. Turan
G. Rote	M. Skoviera	J. Tyszkiewicz
S. Rudich	M. Skutella	M. Uetz
P. Růžička	Ch. Stamm	P. Urzyczyn
A. Salomaa	I. Stark	R. Vestergaard
R. Sandner	T. Stauner	E. Vigoda
D. Sangiorgi	D. Štefankovič	A. Vilbig
L. Santocanale	J. Stefanowski	P. Vitanyi
M. Sauerhoff	B. Steffen	I. Vrto
P. Savický	A. Steger	S. Waack
M. Schaefer	M. Steinby	E. Wanke
K. Schlude	F. Stephan	J. Watrous
N. Schmitt	J. Stoklosa	D. Wawrzyniak
G. Schnitger	M. Sviridenko	K. Weihrauch
T. Schwentick	G. Szabo	M. Wenzel
H. Schwichtenberg	R. Szelepcsenyi	C. Witt
L. Segoufin	D. Taylor	S. Yu
S. Seibert	J. A. Telle	S. Žák
G. Senizergues	V. Terrier	
D. Sieling	D. Thérien	
H. Simon	P. S. Thiagarajan	