

[Applied Algebra, Algebraic Algorithms and Error-Correcting Codes](#)

14th International Symposium, AAECC-14, Melbourne, Australia, November 26-30, 2001. Proceedings

Bearbeitet von
Serdar Boztas, Igor E Shparlinski

1. Auflage 2001. Taschenbuch. XII, 404 S. Paperback
ISBN 978 3 540 42911 1
Format (B x L): 15,5 x 23,5 cm
Gewicht: 1280 g

[Weitere Fachgebiete > EDV, Informatik > Datenbanken, Informationssicherheit,
Geschäftssoftware > Informations- und Kodierungstheorie](#)

Zu [Inhaltsverzeichnis](#)

schnell und portofrei erhältlich bei

The logo for beck-shop.de features the text "beck-shop.de" in a bold, red, sans-serif font. Above the "i" in "shop" are three red dots of increasing size. Below the main text, the words "DIE FACHBUCHHANDLUNG" are written in a smaller, red, all-caps, sans-serif font.

beck-shop.de
DIE FACHBUCHHANDLUNG

Die Online-Fachbuchhandlung beck-shop.de ist spezialisiert auf Fachbücher, insbesondere Recht, Steuern und Wirtschaft. Im Sortiment finden Sie alle Medien (Bücher, Zeitschriften, CDs, eBooks, etc.) aller Verlage. Ergänzt wird das Programm durch Services wie Neuerscheinungsdienst oder Zusammenstellungen von Büchern zu Sonderpreisen. Der Shop führt mehr als 8 Millionen Produkte.

Preface

The AAEEC Symposia Series was started in 1983 by Alain Poli (Toulouse), who, together with R. Desq, D. Lazard, and P. Camion, organized the first conference. Originally the acronym AAEEC meant “Applied Algebra and Error-Correcting Codes”. Over the years its meaning has shifted to “Applied Algebra, Algebraic Algorithms, and Error-Correcting Codes”, reflecting the growing importance of complexity in both decoding algorithms and computational algebra.

AAEEC aims to encourage cross-fertilization between algebraic methods and their applications in computing and communications. The algebraic orientation is towards finite fields, complexity, polynomials, and graphs. The applications orientation is towards both theoretical and practical error-correction coding, and, since AAEEC 13 (Hawaii, 1999), towards cryptography. AAEEC was the first symposium with papers connecting Gröbner bases with E-C codes. The balance between theoretical and practical is intended to shift regularly; at AAEEC-14 the focus was on the theoretical side.

The main subjects covered were:

- Codes: iterative decoding, decoding methods, block codes, code construction.
- Codes and algebra: algebraic curves, Gröbner bases, and AG codes.
- Algebra: rings and fields, polynomials.
- Codes and combinatorics: graphs and matrices, designs, arithmetic.
- Cryptography.
- Computational algebra: algebraic algorithms.
- Sequences for communications.

Six invited speakers covered the areas outlined:

- Robert Calderbank, “Combinatorics, Quantum Computers, and Cellular Phones”
- James Massey, “The Ubiquity of Reed-Muller Codes”
- Graham Norton, “Gröbner Bases over a Principal Ideal Ring”
- Vera Pless, “Self-dual Codes – Theme and Variations”
- Amin Shokrollahi, “Design of Differential Space-Time Codes Using Group Theory”
- Madhu Sudan, “Ideal Error-Correcting Codes: Unifying Algebraic and Number-Theoretic Algorithms”.

Except for AAEEC-1 (*Discrete Mathematics* 56, 1985) and AAEEC-7 (*Discrete Applied Mathematics* 33, 1991), the proceedings of all the symposia have been published in Springer-Verlag’s *Lecture Notes in Computer Science* (Vols. 228, 229, 307, 356, 357, 508, 539, 673, 948, 1255, 1719).

It is a policy of AAEEC to maintain a high scientific standard, comparable to that of a journal. This has been made possible thanks to the many referees involved. Each submitted paper was evaluated by at least two international researchers.

AAECC-14 received and refereed 61 submissions. Of these, 1 was withdrawn, 36 were selected for publication in these proceedings, while 7 additional works contributed to the symposium as oral presentations. Unrefereed talks were presented in a “Recent Results” session.

The symposium was organized by Serdar Boztaş, Tom Høholdt, Kathy Horadam, Igor E. Shparlinski, and Branka Vucetic, with the help of Asha Baliga, Pride Conference Management (Juliann Smith), and the Department of Mathematics, RMIT University. It was sponsored by the Australian Mathematical Society.

We express our thanks to the staff of Springer-Verlag, especially Alfred Hofmann and Anna Kramer, for their help in the preparation of these proceedings.

August 2001

Serdar Boztaş and Igor E. Shparlinski

Organization

Steering Committee

General Chair: Kathy Horadam (RMIT Univ., AUS)
Conference Co-chair: Tom Høholdt (Technical Univ. of Denmark, DK)
Program Chair: Igor Shparlinski (Macquarie Univ., AUS)
Program Co-chair: Branka Vucetic (Sydney Univ., AUS)
Publication: Serdar Boztaş (RMIT Univ., AUS)

Conference Committee

J. Calmet	T. Høholdt	S. Lin
M. Clausen	K. Horadam	O. Moreno
G. Cohen	H. Imai	H. Niederreiter
P.G. Farrell	H. Janwa	A. Poli
G.L. Feng	J.M. Jensen	T.R.N. Rao
M. Giusti	R. Kohno	S. Sakata
J. Heintz	H.W. Lenstra Jr.	P. Solé

Program Committee

I.F. Blake	M. Giusti	S. Litsyn
J. Calmet	J. Gutierrez	A. Nechaev
C. Carlet	J. Heintz	H. Niederreiter
P. Charpin	T. Helleseht	D. Panario
M. Clausen	H. Imai	S. Sakata
P.G. Farrell	E. Kaltofen	P. Solé
M. Fossorier	T. Kasami	H. van Tilborg
M. Giesbrecht	L. Knudsen	C. Xing

Local Organizing Committee

Asha Baliga	Serdar Boztaş	Kathy Horadam
-------------	---------------	---------------

Referees

D. Augot	N. Boston	C. Carlet
A. Baliga	F. Boulier	P. Charpin
I.F. Blake	S. Boztaş	M. Clausen
A. Bonnetcaze	J. Calmet	G. Cohen

VIII Organization

R. Cramer	C. Hao	S. Murphy
I. Damgård	T. Hashimoto	V.K. Murty
M. Dichtl	J. Heintz	A. Nechaev
C. Ding	T. Helleseht	H. Niederreiter
I. Duursma	K. Horadam	D. Panario
P.G. Farrell	X-D. Hou	L. Pecquet
G-L. Feng	H. Imai	V. Rijmen
H.C. Ferreira	J. Jensen	S. Sakata
M. Fossorier	G. Kabatiansky	P. Sarkar
T. Fujiwara	E. Kaltofen	H.G. Schaathun
P. Gaborit	T. Kasami	I. Shparlinski
J. Galati	F. Keqin	B. Shung
S. Galbraith	T. Kløve	A. Silverberg
S. Gao	L. Knudsen	P. Solé
V.P. Gerdt	L. Kulesz	B. Stevens
M. Giesbrecht	T. Laihonon	H. van Tilborg
M. Giusti	S. Ling	B. Vucetic
F. Griffin	S. Litsyn	J.L. Walker
J. Gutierrez	F. Morain	K. Yang
Y.S. Han	R. Morelos-Zaragoza	C. Xing

Sponsoring Institutions

Australian Mathematical Society