

# Contents

## Public Key Cryptosystems

Generating RSA Moduli with a Predetermined Portion .....	1
<i>Arjen K. Lenstra (Citibank, USA)</i>	
Generation of Shared RSA Keys by Two Parties.....	11
<i>Guillaume Poupard, Jacques Stern (ENS, France)</i>	
An Attack on RSA Given a Small Fraction of the Private Key Bits.....	25
<i>Dan Boneh, Glenn Durfee (Stanford Univ., USA)</i> <i>Yair Frankel (Certco, USA)</i>	
$C_{+}^{*}$ and HM: Variations Around Two Schemes of T.Matsumoto and H.Imai.....	35
<i>Jacques Patarin, Louis Goubin (BULL, France),</i> <i>Nicolas Courtois (Univ. de Toulon, France)</i>	

## Invited Talk

ECC/DLP and Factoring-Based Cryptography: A Tale of Two Families.....	50
<i>Burt S. Kaliski Jr. (RSA Labs., USA)</i>	

## Elliptic Curve Cryptosystems

Efficient Elliptic Curve Exponentiation Using Mixed Coordinates.....	51
<i>Henri Cohen (Univ. Bordeaux I, France),</i> <i>Atsuko Miyaji (MEI., Japan),</i> <i>Takatoshi Ono (MISRLNC., Japan)</i>	
Efficient Implementation of Schoof's Algorithm.....	66
<i>Tetsuya Izu, Jun Kogure, Masayuki Noro,</i> <i>Kazuhiro Yokoyama (Fujitsu Labs, LTD., Japan)</i>	
Design of Hyperelliptic Cryptosystems in Small Characteristic and a Software Implementation over $F_{2^n}$ .....	80
<i>Yasuyuki Sakai (MEC., Japan)</i> <i>Kouichi Sakurai (Kyushu Univ., Japan)</i>	
Construction of Secure Elliptic Cryptosystems Using CM Tests and Liftings.....	95
<i>Jinkui Chao, Osamu Nakamura, Kohji Sobataka,</i> <i>Shigeo Tsujii (Chuo Univ., Japan)</i>	

Elliptic Curve Discrete Logarithms and the Index Calculus..... 110  
*Joseph H. Silverman (Brown Univ., USA)*  
*Joe Suzuki (Osaka Univ., Japan)*

**Cryptanalysis 1**

Cryptanalysis of Rijmen-Preneel Trapdoor Cipher..... 126  
*Hongjun Wu (Nat. Univ. of Singapore),*  
*Feng Bao, Robert H.Deng (Kent Ridge Digital Labs., Singapore),*  
*Qin-Zhong Ye (Nat. Univ. of Singapore)*

Improved Truncated Differential Attacks on SAFER..... 133  
*Hongjun Wu (Nat. Univ. of Singapore),*  
*Feng Bao, Robert H.Deng (Kent Ridge Digital Labs., Singapore),*  
*Qin-Zhong Ye (Nat. Univ. of Singapore)*

Optimal Resistance Against the Davis and Murphy Attack..... 148  
*Thomas Pornin (ENS, France)*

**Signature**

A Group Signature Scheme with Improved Efficiency..... 160  
*Jan Camenisch (Univ. of Aarhus, Denmark )*  
*Markus Michels (r3 security engineering, Switzerland)*

A Study on the Proposed Korean Digital Signature Algorithm..... 175  
*Chae Hoon Lim (Future Systems Inc., Korea)*  
*Pil Joong Lee (POSTECH, Korea)*

**Cryptanalysis 2**

Cryptanalysis of the Original McEliece Cryptosystem..... 187  
*Anne Canteaut, Nicolas Sendrier (INRIA Project CODES, France)*

Improving the Security of the McEliece Public-Key Cryptosystem..... 200  
*Hung-Min Sun (Chaoyang Univ. of Tech., Taiwan)*

Cryptanalysis in Prime Order Subgroups of  $Z_n^*$ ..... 214  
*Wenbo Mao (Hewlett-Packard Labs., UK)*  
*Chae Hoon Lim (Future Systems Inc., Korea)*

**Finite Automata**

Weak Invertibility of Finite Automata and Cryptanalysis on FAPKC..... 227  
*Zongduo Dai (SKLOIS, China)*  
*Ding Feng Ye, Kwok Yan Lam (Nat. Univ. of Singapore, Singapore)*

**Authentication Codes**

Bounds and Constructions for Multireceiver Authentication Codes..... 242  
*Rei Safavi-Naini, Huaxiong Wang (Univ. of Wollongong, Australia)*

**Electronic Cash**

FairOff-Line e-Cash Made Easy..... 257  
*Yair Frankel (CertCo, USA)*  
*Yiannis Tsiounis (GTE Labs., USA)*  
*Moti Yung (CertCo, USA)*

Off-Line Fair Payment Protocols Using Convertible Signatures..... 271  
*Colin Boyd, Ernest Foo (Queensland Univ. of Tech., Australia)*

Efficient Fair Exchange with Verifiable Confirmation of Signatures..... 286  
*Liqun Chen (Hewlett-Packard Labs., UK)*

Adaptively Secure Oblivious Transfer..... 300  
*Donald Beaver (Transarc Corp. USA)*

**Stream Ciphers**

ML-Sequences over Rings  $Z/(2^n)$ ..... 315  
*Wenfeng Qi (ZIEI, China)*  
*Junhui Yang (Academia Sinica, China)*  
*Jingjun Zhou (ZIEI, China)*

Analysis Methods for (Alleged) RC4..... 327  
*Lars R. Knudsen (Univ. of Bergen, Belgium)*  
*Willi Meier (HTL Brugg-Windisch, Belgium)*  
*Bart Preneel, Vincent Rijmen, Sven Verdoolaege ( ESAT, K. U. Leuven, Belgium)*

Reduced Complexity Correlation Attacks on Two Clock-Controlled Generators ..... 342  
*Thomas Johansson (Lund Univ., Sweden)*

## Cryptographic Protocols

A New and Efficient All-Or-Nothing Disclosure of Secrets Protocol .....	357
<i>Julien P. Stern (UCL Crypto Group, Belgium)</i>	

The Béguin-Quisquater Server-Aided RSA Protocol fom Crypto'95 is Not secure .....	372
<i>Phong Nguyen, Jacques Stern (ENS, France)</i>	

## Key Escrow

Equitable Key Escrow with Limited Time Span (or How to Enforce Time Expiration Cryptographically).....	380
<i>Mike Burmester (Univ. of London, UK)</i>	
<i>Yvo Desmedt (Univ. of Wisconsin-Milwaukee, USA),</i>	
<i>Jennifer Seberry (Univ. of Wollongong, Australia)</i>	

## New Cryptography

Audio and Optical Cryptography.....	392
<i>Yvo Desmedt, Shuang Hou (Univ. of Wisconsin-Milwaukee, USA),</i>	
<i>Jean-Jacques Quisquater (Univ. Catholique de Louvain, Belgium)</i>	

## Information Theory

Strong Security Against Active Attacks in Information-Theoretic Secret-Key Agreement.....	405
<i>Stefan Wolf (ETH, Switzerland)</i>	

Some Bounds and a Construction for Secure Broadcast Encryption.....	420
<i>Kaoru Kurosawa, Takuya Yoshida (Tokyo Institute of Technology, Japan)</i>	
<i>Yvo Desmedt, (Univ. of Wisconsin-Milwaukee, USA)</i>	
<i>M.Burmester(Univ. of London, UK)</i>	

<b>Author Index</b> .....	435
---------------------------	-----