# Complexity Of Lattice Problems A Cryptographic Perspective Author Daniele Micciancio Mar 2002

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Advances in Cryptology - CRYPTO 2006 Cynthia Dwork 2006-08-08 Constitutes the refereed proceedings of the 26th

Annual International Cryptology Conference, CRYPTO 2006, held in California, USA in 2006. These papers address the foundational, theoretical and research aspects of cryptology, cryptography, and cryptanalysis as well as advanced applications.

**Advances in Cryptology – EUROCRYPT 2008** Nigel Smart 2008-04-05 Here are the refereed proceedings of the 27th Annual International Conference on the Theory and Applications of Cryptographic Techniques, EUROCRYPT 2008. The 31 revised full papers presented were carefully reviewed and selected from 163 submissions.

*Selected Areas in Cryptography* Lars R. Knudsen 2013-01-03 This book constitutes the thoroughly refereed post-conference proceedings of the 19th International Conference on Selected Areas in Cryptography, SAC 2012, held in Windsor, Ontario, Canada, in August 2012. The 24 papers presented were carefully reviewed and selected from 87 submissions. They are organized in topical sections named: cryptanalysis, digital signatures, stream ciphers, implementations, block cipher cryptanalysis, lattices, hashfunctions, blockcipher constructions, and miscellaneous.

Mathematics and Computation Avi Wigderson 2019-10-29 An introduction to computational complexity theory, its connections and interactions with mathematics, and its central role in the natural and social sciences, technology, and philosophy Mathematics and Computation provides a broad, conceptual overview of computational complexity theory—the mathematical study of efficient

computation. With important practical applications to computer science and industry, computational complexity theory has evolved into a highly interdisciplinary field, with strong links to most mathematical areas and to a growing number of scientific endeavors. Avi Wigderson takes a sweeping survey of complexity theory, emphasizing the field's insights and challenges. He explains the ideas and motivations leading to key models, notions, and results. In particular, he looks at algorithms and complexity, computations and proofs, randomness and interaction, quantum and arithmetic computation, and cryptography and learning, all as parts of a cohesive whole with numerous cross-influences. Wigderson illustrates the immense breadth of the field, its beauty and richness, and its diverse and growing interactions with other areas of mathematics. He ends with a comprehensive look at the theory of computation, its methodology and aspirations, and the unique and fundamental ways in which it has shaped and will further shape science, technology, and society. For further reading, an extensive bibliography is provided for all topics covered. Mathematics and Computation is useful for undergraduate and graduate students in mathematics, computer science, and related fields, as well as researchers and teachers in these fields. Many parts require little background, and serve as an invitation to newcomers seeking an introduction to the theory of computation. Comprehensive coverage

of computational complexity theory, and beyond High-level, intuitive exposition, which brings conceptual clarity to this central and dynamic scientific discipline Historical accounts of the evolution and motivations of central concepts and models A broad view of the theory of computation's influence on science, technology, and society Extensive bibliography

**Advances in Cryptology - CRYPTO 2008** David Wagner 2008-07-30 Annotation This book contains the proceedings of the EUROCRYPT '87 conference, a workshop on theory and applications of cryptographic techniques held at Amsterdam, April 1987. 26 papers were selected from over twice that number submitted to the program committee. The authors come from Europe, North America, and Japan and represent some of the leading research groups working in the fields of cryptography and data security. The subjects covered include sequences and linear complexity; hardware considerations, including random sources, physical security, and cryptographic algorithm implementation; topics in public key cryptography; authentication and secure transactions; hash functions and signatures; and the theory and application of symmetric ciphers.

**Security, Privacy, and Applied Cryptography Engineering** Rajat Subhra Chakraborty 2014-10-08 This book constitutes the refereed proceedings of the 4th International Conference on Security, Privacy, and Applied Cryptography Engineering held in Pune, India, in October 2014. The 19 papers presented together with two invited papers were carefully

reviewed and selected from 66 submissions. The papers are organized in topical sections on cryptographic building blocks; mini tutorial; attacks and countermeasures; tools and methods; and secure systems and applications.

*Advances in Cryptology - ASIACRYPT 2008* Josef Pawel Pieprzyk 2008-11-13 recipients of the Best Paper Award.

**Advances in Cryptology - CRYPTO 2007** Alfred Menezes 2007-08-10 This volume constitutes the refereed proceedings of the 27th Annual International Cryptology Conference held in Santa Barbara, California, in August 2007. Thirty-three full papers are presented along with one important invited lecture. The papers address current foundational, theoretical, and research aspects of cryptology, cryptography, and cryptanalysis. In addition, readers will discover many advanced and emerging applications.

Mathematics of Public Key Cryptography Steven D. Galbraith 2012-03-15 This advanced graduate textbook gives an authoritative and insightful description of the major ideas and techniques of public key cryptography.

**Computational Complexity** Sanjeev Arora 2009-04-20 New and classical results in computational complexity, including interactive proofs, PCP, derandomization, and quantum computation. Ideal for graduate students.

Security and Cryptography for Networks Ivan Visconti 2012-08-30 This book constitutes the proceedings of the 8th International Conference on Security and Cryptography, SCN 2012, held in Amalfi, Italy, in

September 2012. The 31 papers presented in this volume were carefully reviewed and selected from 72 submissions. They are organized in topical sections on cryptography from lattices; signature schemes; encryption schemes; efficient two-party and multi-party computation; security in the UC framework; cryptanalysis; efficient constructions; and protocols and combiners.

**Theory and Applications of Models of Computation** T V Gopal 2014-04-01 This book constitutes the refereed proceedings of the 11th Annual Conference on Theory and Applications of Models of Computation, TAMC 2014, held in Chennai, India, in April 2014. The 27 revised full papers presented were carefully reviewed and selected from 112 submissions. The papers explore the algorithmic foundations, computational methods and computing devices to meet today's and tomorrow's challenges of complexity, scalability and sustainability, with wide-ranging impacts on everything from the design of biological systems to the understanding of economic markets and social networks.

*A Decade of Lattice Cryptography* Chris Peikert 2016-03-07 Surveys most of the major developments in lattice cryptography over the past ten years. The main focus is on the foundational short integer solution (SIS) and learning with errors (LWE) problems, their provable hardness assuming the worst-case intractability of standard lattice problems, and their many cryptographic applications.

**Advances in Cryptology - ASIACRYPT**

**2009** Mitsuri Matsui 2009-12-01 This book constitutes the refereed proceedings of the 15th International Conference on the Theory and Application of Cryptology and Information Security, ASIACRYPT 2009, held in Tokyo, Japan, in December 2009. The 41 revised full papers presented were carefully reviewed and selected from 298 submissions. The papers are organized in topical sections on block ciphers, quantum and post-quantum, hash functions I, encryption schemes, multi party computation, cryptographic protocols, hash funtions II, models and frameworks I, cryptoanalysis: square and quadratic, models and framework II, hash functions III, lattice-based, and side channels.

Applied Cryptography and Network Security Michel Abdalla 2009-05-25 ACNS2009,the7thInternationalConferenceonAppliedCryptographyandN- work Security, was held in Paris-Rocquencourt, France, June 2–5, 2009. ACNS ´ 2009 was organized by the Ecole Normale Sup´ erieure (ENS), the French - tional Center for Scienti?c Research (CNRS), and the French National Institute for Researchin Computer Science andControl(INRIA), in cooperationwith the InternationalAssociation for CryptologicResearch(IACR). The General Chairs of the conference were Pierre-Alain Fouque and Damien Vergnaud.

Theconferencereceived150submissionsandeachsubmissionwasassignedto at least three committee members. Submissions co-authored by members of the Program Committee were assigned to at least four committee members. Due to

thelargenumber ofhigh-qualitysubmissions,thereviewprocesswaschallenging andwearedeeplygratefulto the committeemembersandthe externalreviewers for their outstanding work. After meticulous deliberation, the Program C- mittee, which was chaired by Michel Abdalla and David Pointcheval, selected 32 submissions for presentation in the academic track and these are the articles that are included in this volume. Additionally, a few other submissions were selected for presentation in the non-archival industrial track. The best student paper was awarded to Ayman Jarrous for his paper “Secure Hamming Distance Based Computation and Its Applications,” co-authoredwith Benny Pinkas. The review process was run using the iChair software, written by Thomas Baigneres and Matthieu Finiasz from EPFL, LASEC, Switzerland and we are indebted to them for letting us use their software. The programalso included four invited talks in addition to the academicand industrial tracks.

The LLL Algorithm Phong Q. Nguyen 2009-12-02 The first book to offer a comprehensive view of the LLL algorithm, this text surveys computational aspects of Euclidean lattices and their main applications. It includes many detailed motivations, explanations and examples.

**Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques** Anupam Gupta 2012-07-20 This book constitutes the joint refereed proceedings of the 15th International

Workshop on Approximation Algorithms for Combinatorial Optimization Problems, APPROX 2012, and the 16th International Workshop on Randomization and Computation, RANDOM 2012, held in Cambridge, Massachusetts, USA, in August 2011. The volume contains 28 contributed papers, selected by the APPROX Program Committee out of 70 submissions, and 28 contributed papers, selected by the RANDOM Program Committee out of 67 submissions. APPROX focuses on algorithmic and complexity issues surrounding the development of efficient approximate solutions to computationally difficult problems. RANDOM is concerned with applications of randomness to computational and combinatorial problems.

**Complexity Theory and Cryptology** Jörg Rothe 2006-03-30 Modern cryptology increasingly employs mathematically rigorous concepts and methods from complexity theory. Conversely, current research topics in complexity theory are often motivated by questions and problems from cryptology. This book takes account of this situation, and therefore its subject is what may be dubbed "cryptocomplexity'', a kind of symbiosis of these two areas. This book is written for undergraduate and graduate students of computer science, mathematics, and engineering, and can be used for courses on complexity theory and cryptology, preferably by stressing their interrelation. Moreover, it may serve as a valuable source for researchers, teachers, and practitioners working in these

fields. Starting from scratch, it works its way to the frontiers of current research in these fields and provides a detailed overview of their history and their current research topics and challenges.

**Cryptographic Hardware and Embedded Systems -- CHES 2011** Bart Preneel 2011-09-12 This book constitutes the proceedings of the 13th International Workshop on Cryptographic Hardware and Embedded Systems, CHES 2011, held in Nara, Japan, from September 28 until October 1, 2011. The 32 papers presented together with 1 invited talk were carefully reviewed and selected from 119 submissions. The papers are organized in topical sections named: FPGA implementation; AES; elliptic curve cryptosystems; lattices; side channel attacks; fault attacks; lightweight symmetric algorithms, PUFs; public-key cryptosystems; and hash functions.

*Lattice-Based Cryptosystems* Jiang Zhang 2020-10-14 This book focuses on lattice-based cryptosystems, widely considered to be one of the most promising post-quantum cryptosystems and provides fundamental insights into how to construct provably secure cryptosystems from hard lattice problems. The concept of provable security is used to inform the choice of lattice tool for designing cryptosystems, including public-key encryption, identity-based encryption, attribute-based encryption, key change and digital signatures. Given its depth of coverage, the book especially appeals to graduate students and young researchers who plan to enter this research area.

*Information Security and Cryptology - ICISC 2014* Jooyoung Lee 2015-03-16 This book constitutes the thoroughly refereed post-conference proceedings of the 17th International Conference on Information Security and Cryptology, ICISC 2014, held in Seoul, South Korea in December 2014. The 27 revised full papers presented were carefully selected from 91 submissions during two rounds of reviewing. The papers provide the latest results in research, development and applications in the field of information security and cryptology. They are organized in topical sections on RSA security, digital signature, public key cryptography, block ciphers, network security, mobile security, hash functions, information hiding and efficiency, cryptographic protocol, and side-channel attacks.

Understanding Cryptography Christof Paar 2009-11-27 Cryptography is now ubiquitous – moving beyond the traditional environments, such as government communications and banking systems, we see cryptographic techniques realized in Web browsers, e-mail programs, cell phones, manufacturing systems, embedded software, smart buildings, cars, and even medical implants. Today's designers need a comprehensive understanding of applied cryptography. After an introduction to cryptography and data security, the authors explain the main techniques in modern cryptography, with chapters addressing stream ciphers, the Data Encryption Standard (DES) and 3DES, the Advanced Encryption Standard (AES), block

ciphers, the RSA cryptosystem, public-key cryptosystems based on the discrete logarithm problem, elliptic-curve cryptography (ECC), digital signatures, hash functions, Message Authentication Codes (MACs), and methods for key establishment, including certificates and public-key infrastructure (PKI). Throughout the book, the authors focus on communicating the essentials and keeping the mathematics to a minimum, and they move quickly from explaining the foundations to describing practical implementations, including recent topics such as lightweight ciphers for RFIDs and mobile devices, and current key-length recommendations. The authors have considerable experience teaching applied cryptography to engineering and computer science students and to professionals, and they make extensive use of examples, problems, and chapter reviews, while the book's website offers slides, projects and links to further resources. This is a suitable textbook for graduate and advanced undergraduate courses and also for self-study by engineers.

Public Key Cryptography - PKC 2007 Tatsuaki Okamoto 2007-06-21 This book constitutes the refereed proceedings of the 10th International Conference on Practice and Theory in Public-Key Cryptography, PKC 2007, held in Beijing, China in April 2007. The 29 revised full papers presented together with two invited lectures are organized in topical sections on signatures, cryptanalysis, protocols, multivariate cryptosystems, encryption, number theoretic techniques, and public-key

infrastructure.

Providing Sound Foundations for Cryptography Oded Goldreich 2019-09-13 Cryptography is concerned with the construction of schemes that withstand any abuse. A cryptographic scheme is constructed so as to maintain a desired functionality, even under malicious attempts aimed at making it deviate from its prescribed behavior. The design of cryptographic systems must be based on firm foundations, whereas ad hoc approaches and heuristics are a very dangerous way to go. These foundations were developed mostly in the 1980s, in works that are all co-authored by Shafi Goldwasser and/or Silvio Micali. These works have transformed cryptography from an engineering discipline, lacking sound theoretical foundations, into a scientific field possessing a well-founded theory, which influences practice as well as contributes to other areas of theoretical computer science. This book celebrates these works, which were the basis for bestowing the 2012 A.M. Turing Award upon Shafi Goldwasser and Silvio Micali. A significant portion of this book reproduces some of these works, and another portion consists of scientific perspectives by some of their former students. The highlight of the book is provided by a few chapters that allow the readers to meet Shafi and Silvio in person. These include interviews with them, their biographies and their Turing Award lectures.

Public Key Cryptography - PKC 2010 Phong Q. Nguyen 2010-05-15 Annotation This book constitutes the refereed

proceedings of the 13th International Conference on Practice and Theory in Public Key Cryptography, PKC 2010, held in Paris, France, in May 2010. The 29 revised full papers presented were carefully reviewed and selected from 145 submissions. The papers are organized in topical sections on encryption; cryptanalysis; protocols; network coding; tools; elliptic curves; lossy trapdoor functions; discrete logarithm; and signatures.

*Post-Quantum Cryptography* Daniel J. Bernstein 2009-02-01 Quantum computers will break today's most popular public-key cryptographic systems, including RSA, DSA, and ECDSA. This book introduces the reader to the next generation of cryptographic algorithms, the systems that resist quantum-computer attacks: in particular, post-quantum public-key encryption systems and post-quantum public-key signature systems. Leading experts have joined forces for the first time to explain the state of the art in quantum computing, hash-based cryptography, code-based cryptography, lattice-based cryptography, and multivariate cryptography. Mathematical foundations and implementation issues are included. This book is an essential resource for students and researchers who want to contribute to the field of post-quantum cryptography.

*Handbook of Applied Cryptography* Alfred J. Menezes 2018-12-07 Cryptography, in particular public-key cryptography, has emerged in the last 20 years as an important discipline that is not only the subject of an enormous amount of

research, but provides the foundation for information security in many applications. Standards are emerging to meet the demands for cryptographic protection in most areas of data communications. Public-key cryptographic techniques are now in widespread use, especially in the financial services industry, in the public sector, and by individuals for their personal privacy, such as in electronic mail. This Handbook will serve as a valuable reference for the novice as well as for the expert who needs a wider scope of coverage within the area of cryptography. It is a necessary and timely guide for professionals who practice the art of cryptography. The Handbook of Applied Cryptography provides a treatment that is multifunctional: It serves as an introduction to the more practical aspects of both conventional and public-key cryptography It is a valuable source of the latest techniques and algorithms for the serious practitioner It provides an integrated treatment of the field, while still presenting each major topic as a self-contained unit It provides a mathematical treatment to accompany practical discussions It contains enough abstraction to be a valuable reference for theoreticians while containing enough detail to actually allow implementation of the algorithms discussed Now in its third printing, this is the definitive cryptography reference that the novice as well as experienced developers, designers, researchers, engineers, computer scientists, and mathematicians alike will use.

**Coding and Cryptology** Yeow Meng Chee

2011-06-05 This book constitutes the refereed proceedings of the Third International Workshop on Coding and Cryptology, IWCC 2011, held in Qingdao, China, May 30-June 3, 2011. The 19 revised full technical papers are contributed by the invited speakers of the workshop. The papers were carefully reviewed and cover a broad range of foundational and methodological as well as applicative issues in coding and cryptology, as well as related areas such as combinatorics.

**Advances in Cryptology - EUROCRYPT 2010** Henri Gilbert 2010-05-20 This book constitutes the refereed proceedings of the 29th Annual International Conference on the Theory and Applications of Cryptographic Techniques, EUROCRYPT 2010, held on the French Riviera, in May/June 2010. The 33 revised full papers presented together with 1 invited lecture were carefully reviewed and selected from 188 submissions. The papers address all current foundational, theoretical and research aspects of cryptology, cryptography, and cryptanalysis as well as advanced applications. The papers are organized in topical sections on cryptosystems; obfuscation and side channel security; 2-party protocols; cryptanalysis; automated tools and formal methods; models and proofs; multiparty protocols; hash and MAC; and foundational primitives.

*Complexity of Lattice Problems* Daniele Micciancio 2012-12-06 Lattices are geometric objects that can be pictorially described as the set of intersection points of an

infinite, regular n-dimensional grid. De spite their apparent simplicity, lattices hide a rich combinatorial struc ture, which has attracted the attention of great mathematicians over the last two centuries. Not surprisingly, lattices have found numerous ap plications in mathematics and computer science, ranging from number theory and Diophantine approximation, to combinatorial optimization and cryptography. The study of lattices, specifically from a computational point of view, was marked by two major breakthroughs: the development of the LLL lattice reduction algorithm by Lenstra, Lenstra and Lovasz in the early 80's, and Ajtai's discovery of a connection between the worst-case and average-case hardness of certain lattice problems in the late 90's. The LLL algorithm, despite the relatively poor quality of the solution it gives in the worst case, allowed to devise polynomial time solutions to many classical problems in computer science. These include, solving integer programs in a fixed number of variables, factoring polynomials over the rationals, breaking knapsack based cryptosystems, and finding solutions to many other Diophantine and cryptanalysis problems.

**Advances in Cryptology -- CRYPTO 2003** Dan Boneh 2003-10-24 Crypto 2003, the 23rd Annual Crypto Conference, was sponsored by the Int- national Association for Cryptologic Research (IACR) in cooperation with the IEEE Computer Society Technical Committee on Security and Privacy and the Computer Science Department of the University of California at Santa

Barbara. The conference received 169 submissions, of which the program committee selected 34 for presentation. These proceedings contain the revised versions of the 34 submissions that were presented at the conference. These revisions have not been checked for correctness, and the authors bear full responsibility for the contents of their papers. Submissions to the conference represent cutti- edge research in the cryptographic community worldwide and cover all areas of cryptography. Many high-quality works could not be accepted. These works will surely be published elsewhere. The conference program included two invited lectures. Moni Naor spoke on cryptographic assumptions and challenges. Hugo Krawczyk spoke on the 'SI- and-MAc'approachtoauthenticatedDi?e-HellmananditsuseintheIKEpro- cols. The conference program also included the traditional rump session, chaired by Stuart Haber, featuring short, informal talks on late-breaking research news. Assembling the conference program requires the help of many many people. To all those who pitched in, I am forever in your debt. I would like to ?rst thank the many researchers from all over the world who submitted their work to this conference. Without them, Crypto could not exist. I thank Greg Rose, the general chair, for shielding me from innumerable logistical headaches, and showing great generosity in supporting my e?orts.

**Cryptanalytic Attacks on RSA** Song Y. Yan 2007-11-15 RSA is a public-key cryptographic system, and is the most

famous and widely-used cryptographic system in today's digital world. Cryptanalytic Attacks on RSA, a professional book, covers almost all known cryptanalytic attacks and defenses of the RSA cryptographic system and its variants. Since RSA depends heavily on computational complexity theory and number theory, background information on complexity theory and number theory is presented first, followed by an account of the RSA cryptographic system and its variants. This book is also suitable as a secondary text for advanced-level students in computer science and mathematics.

**Theory of Cryptography** Shai Halevi 2006-03-01 This book constitutes the refereed proceedings of the Third Theory of Cryptography Conference, TCC 2006, held in March 2006. The 31 revised full papers presented were carefully reviewed and selected from 91 submissions. The papers are organized in topical sections on zero-knowledge, primitives, assumptions and models, the bounded-retrieval model, privacy, secret sharing and multi-party computation, universally-composible security, one-way functions and friends, and pseudo-random functions and encryption.

*Encyclopedia of Cryptography and Security* Henk C.A. van Tilborg 2014-07-08 Expanded into two volumes, the Second Edition of Springer’s Encyclopedia of Cryptography and Security brings the latest and most comprehensive coverage of the topic: Definitive information on cryptography and information security from highly regarded researchers

Effective tool for professionals in many fields and researchers of all levels Extensive resource with more than 700 contributions in Second Edition 5643 references, more than twice the number of references that appear in the First Edition With over 300 new entries, appearing in an A-Z format, the Encyclopedia of Cryptography and Security provides easy, intuitive access to information on all aspects of cryptography and security. As a critical enhancement to the First Edition's base of 464 entries, the information in the Encyclopedia is relevant for researchers and professionals alike. Topics for this comprehensive reference were elected, written, and peer-reviewed by a pool of distinguished researchers in the field. The Second Edition's editorial board now includes 34 scholars, which was expanded from 18 members in the First Edition. Representing the work of researchers from over 30 countries, the Encyclopedia is broad in scope, covering everything from authentication and identification to quantum cryptography and web security. The text's practical style is instructional, yet fosters investigation. Each area presents concepts, designs, and specific implementations. The highly-structured essays in this work include synonyms, a definition and discussion of the topic, bibliographies, and links to related literature. Extensive cross-references to other entries within the Encyclopedia support efficient, user-friendly searches for immediate access to relevant information. Key

concepts presented in the Encyclopedia of Cryptography and Security include: Authentication and identification; Block ciphers and stream ciphers; Computational issues; Copy protection; Cryptanalysis and security; Cryptographic protocols; Electronic payment and digital certificates; Elliptic curve cryptography; Factorization algorithms and primality tests; Hash functions and MACs; Historical systems; Identity-based cryptography; Implementation aspects for smart cards and standards; Key management; Multiparty computations like voting schemes; Public key cryptography; Quantum cryptography; Secret sharing schemes; Sequences; Web Security. Topics covered: Data Structures, Cryptography and Information Theory; Data Encryption; Coding and Information Theory; Appl.Mathematics/Computational Methods of Engineering; Applications of Mathematics; Complexity. This authoritative reference will be published in two formats: print and online. The online edition features hyperlinks to cross-references, in addition to significant research.

**Public-Key Cryptography -- PKC 2014** Hugo Krawczyk 2014-02-20 This book constitutes the refereed proceedings of the 17th International Conference on Practice and Theory in Public-Key Cryptography, PKC 2014, held in Buenos Aires, Argentina, in March 2014. The 38 papers presented were carefully reviewed and selected from 145 submissions. The papers are organized in topical sections on chosen ciphertext security, re-encryption, verifiable outsourcing,

cryptanalysis, identity and attribute-based encryption, enhanced encryption, signature schemes, related-key security, functional authentication, quantum impossibility, privacy, protocols.

**Public-Key Cryptography – PKC 2020** Aggelos Kiayias 2020-04-29 The two-volume set LNCS 12110 and 12111 constitutes the refereed proceedings of the 23rd IACR International Conference on the Practice and Theory of Public-Key Cryptography, PKC 2020, held in Edinburgh, UK, in May 2020. The 44 full papers presented were carefully reviewed and selected from 180 submissions. They are organized in topical sections such as: functional encryption; identity-based encryption; obfuscation and applications; encryption schemes; secure channels; basic primitives with special properties; proofs and arguments; lattice-based cryptography; isogeny-based cryptography; multiparty protocols; secure computation and related primitives; post-quantum primitives; and privacy-preserving schemes.

*Post-Quantum Cryptography* Tanja Lange 2017-06-14 This book constitutes the refereed proceedings of the 8th International Workshop on Post-Quantum Cryptography, PQCrypto 2017, held in Utrecht, The Netherlands, in June 2017. The 23 revised full papers presented were carefully reviewed and selected from 67 submissions. The papers are organized in topical sections on code-based cryptography, isogeny-based cryptography, lattice-based cryptography, multivariate cryptography, quantum algorithms, and security models.

Advances in Cryptology - CRYPTO 2009 Shai Halevi 2009-08-18 This book constitutes the refereed proceedings of the 29th Annual International Cryptology Conference, CRYPTO 2009, held in Santa Barbara, CA, USA in August 2009. The 38 revised full papers presented were carefully reviewed and selected from 213 submissions. Addressing all current foundational, theoretical and research aspects of cryptology, cryptography, and cryptanalysis as well as advanced applications, the papers are organized in topical sections on key leakage, hash-function cryptanalysis, privacy and anonymity, interactive proofs and zero-knowledge, block-cipher cryptanalysis, modes of operation, elliptic curves, cryptographic hardness, merkle puzzles, cryptography in the physical world, attacks on signature schemes, secret sharing and secure computation, cryptography and game-theory, cryptography and lattices, identity-based encryption and cryptographers' toolbox.

*Number Theory and Cryptography* Marc Fischlin 2013-11-21 Johannes Buchmann is internationally recognized as one of the leading figures in areas of computational number theory, cryptography and information security. He has published numerous scientific papers and books spanning a very wide spectrum of interests; besides R&D he also fulfilled lots of administrative tasks for instance building up and directing his research group CDC at Darmstadt, but he also served as the Dean of the Department of Computer Science at TU

Darmstadt and then went on to become Vice President of the university for six years (2001-2007). This festschrift, published in honor of Johannes Buchmann on the occasion of his 60th birthday, contains contributions by some of his colleagues, former students and friends. The papers give an overview of Johannes Buchmann's research interests, ranging from computational number theory and the hardness of cryptographic assumptions to more application-oriented topics such as privacy and hardware security. With this book we celebrate Johannes Buchmann's vision and achievements. **Foundations of Security Analysis and Design VI** Alessandro Aldini 2011-08-19 FOSAD has been one of the foremost educational events established with the goal of disseminating knowledge in the critical area of security in computer systems and networks. Offering a timely spectrum of current research in foundations of security, FOSAD also proposes panels dedicated to topical open problems, and giving presentations about ongoing work in the field, in order to stimulate discussions and novel scientific collaborations. This book presents thoroughly revised versions of nine tutorial lectures given by leading researchers during three International Schools on Foundations of Security Analysis and Design, FOSAD, held in Bertinoro, Italy, in September 2010 and August/September 2011. The topics covered in this book include privacy and data protection; security APIs; cryptographic verification by typing; model-driven

security; noninterfer-quantitative information flow analysis; and risk analysis.