

Shivam Bhasin  
Thomas Roche (Eds.)

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# Smart Card Research and Advanced Applications

22nd International Conference, CARDIS 2023  
Amsterdam, The Netherlands, November 14–16, 2023  
Revised Selected Papers

# Smart Card Research And Applications

**Aurélien Francillon, Pankaj Rohatgi**



## **Smart Card Research And Applications:**

**Smart Card. Research and Applications** Jean-Jacques Quisquater, Bruce Schneier, 2006-12-30 Smart cards have been driven by the need for a secure portable computing platform Hence it is no surprise that security considerations dominated their research The CARDIS conferences were created to provide a forum for this research CARDIS 1998 is the third international conference on Smart Card Research and Advanced Applications held in Louvain la Neuve Belgium 14 16 September 1998 The first CARDIS was held in Lille France in November 1994 and the second was held in Amsterdam The Netherlands in September 1996 The fourth CARDIS is scheduled to take place in Bristol UK in September 2000 <http://www.cardis.org> This volume contains the refereed papers presented at CARDIS 1998 These 35 papers were first published in a pre proceedings and distributed to the attendees at the conference they have subsequently been revised and updated for this volume The papers discuss all aspects of smart card research Java cards electronic commerce applications efficiency security including cryptographic algorithms cryptographic protocols and authentication and architecture Submissions from Europe the U S Asia and Australia show that this is indeed an international area of research and one that is becoming more popular as practical demand for smart cards increase We wish to thank the Program Committee members who did an excellent job in reviewing papers and providing feedback to the authors

**Smart Card. Research and Applications** Jean-Jacques Quisquater, Bruce Schneier, 2000-09 This volume constitutes the thoroughly refereed post proceedings of the Third International Conference on Smart Card Research and Advanced Applications CARDIS 98 held in Louvain la Neuve Belgium in September 1998 The 35 revised full papers presented were carefully reviewed and updated for inclusion in this book All current aspects of smart card research and applications development are addressed in particular Java cards electronic commerce efficiency security including cryptographic algorithms cryptographic protocols and authentication and architecture *Smart Card Research and Advanced Applications* Josep Domingo-Ferrer, David Chan, Anthony Watson, 2000

**Smart Card Research and Advanced Applications** Dieter Gollmann, Jean-Louis Lanet, Julien Iguchi-Cartigny, 2010-04-11 This book constitutes the refereed proceedings of the 9th IFIP WG 8.8.11.2 International Conference on Smart Card Research and Advanced Application CARDIS 2010 held in Passau Germany in April 2010 The 16 revised full papers presented were carefully reviewed and selected from numerous submissions The papers are organized in topical sections on mathematical algorithms side channel analysis systems logical attacks fault analysis and privacy

**Smart Card Research and Advanced Applications** Gilles Grimaud (ed), 2008-08-25 This book constitutes the refereed proceedings of the 8th International Conference on Smart Card Research and Advanced Applications CARDIS 2008 held in London UK in September 2008 The 21 revised full papers presented together with the abstract of one invited talk were carefully reviewed and selected from 51 submissions The papers deal with the various issues related to the use of small electronic tokens in the process of human machine interactions The conference scopes include numerous subfields such as

networking efficient implementations physical security biometrics etc      Smart Card Research and Advanced Applications  
Stefan Mangard, 2013-03-14 This book constitutes the thoroughly refereed post conference proceedings of the 11th  
International Conference on Smart Card Research and Advanced Applications CARDIS 2012 held in Graz Austria in  
November 2012 The 18 revised full papers presented together with an invited talk were carefully reviewed and selected from  
48 submissions The papers are organized in topical sections on Java card security protocols side channel attacks  
implementations and implementations for resource constrained devices      Smart Card Research and Advanced Applications  
Thomas Eisenbarth, Yannick Tegliah, 2018-01-24 This book constitutes the thoroughly refereed post conference proceedings of  
the 16th International Conference on Smart Card Research and Advanced Applications CARDIS 2017 held in Lugano  
Switzerland in November 2017 The 14 revised full papers presented together with 2 abstracts of invited talks in this book  
were carefully reviewed and selected from 48 submissions CARDIS has provided a space for security experts from industry  
and academia to exchange on security of smart cards and related applications      **Smart Card Research and Advanced  
Applications** Emmanuel Prouff, 2011-12-13 This book constitutes the thoroughly refereed post conference proceedings of the  
10th IFIP WG 8.8.11.2 International Conference on Smart Card Research and Advanced Applications CARDIS 2011 held in  
Leuven Belgium in September 2011 The 20 revised full papers presented were carefully reviewed and selected from 45  
submissions The papers are organized in topical sections on smart cards system security invasive attacks new algorithms and  
protocols implementations and hardware security non invasive attacks and Java card security      **Smart Card Research  
and Advanced Applications VI** Jean-Jacques Quisquater, Pierre Paradinas, Yves Deswarte, Anas Abou El Kalam, 2006-04-11  
In the Information Society the smart card or smart device with its processing power and link to its owner will be the potential  
human representation or delegate in Ambient Intelligence Pervasive Computing where every appliance or computer will be  
connected and where control and trust of the personal environment will be the next decade challenge Smart card research is  
of increasing importance as the need for information security grows rapidly Smart cards will play a very large role in ID  
management in secure systems In many computer science areas smart cards introduce new dimensions and opportunities  
Disciplines like hardware design operating systems modeling systems cryptography and distributed systems find new areas  
of applications or issues smart cards also create new challenges for these domains CARDIS the IFIP Conference on Smart  
Card Research and Advanced Applications gathers researchers and technologists who are focused in all aspects of the design  
development deployment validation and application of smart cards or smart personal devices This volume contains the 20  
papers that have been selected by the CARDIS Program Committee for presentation at the 6th International Conference on  
Smart Card Research and Advanced Applications CARDIS 2004 which was held in conjunction with the IFIP 18th World  
Computer Congress in Toulouse France in August 2004 and sponsored by the International Federation for Information  
Processing IFIP With 20% of the papers coming from Asia 20% from America and 60% from Europe the competition was

particularly severe this year with only 20 papers selected out of 45 very good submissions Smart Card Research and Advanced Applications VI presents the latest advances in smart card research and applications and will be essential reading for developers of smart cards and smart card applications as well as for computer science researchers in computer architecture computer security and cryptography Smart Card Research and Advanced Applications Aurélien Francillon,Pankaj Rohatgi,2014-06-26 This book constitutes the thoroughly refereed post conference proceedings of the 12th International Conference on Smart Card Research and Advanced Applications CARDIS 2013 held in Berlin Germany in November 2013 The 17 revised full papers presented in this book were carefully reviewed and selected from 47 submissions The papers are organized in topical sections on security technologies attacks on masking side channel attacks software and protocol analysis side channel countermeasures and side channel and fault attacks **Smart Card Research and Advanced Applications** Naofumi Homma,Marcel Medwed,2016-03-18 This book constitutes the thoroughly refereed post conference proceedings of the 14th International Conference on Smart Card Research and Advanced Applications CARDIS 2015 held in Bochum Germany in November 2015 The 17 revised full papers presented in this book were carefully reviewed and selected from 40 submissions The focus of the conference was on all aspects of the design development deployment validation and application of smart cards and secure elements in secure platforms or systems Smart Card Research and Advanced Applications Shivam Bhasin,Thomas Roche,2024-02-22 This book constitutes the proceedings of the 22nd International Conference on Smart Card Research and Advanced Applications CARDIS 2023 held in Amsterdam The Netherlands during November 14 16 2023 The 13 full papers presented in this volume were carefully reviewed and selected from 28 submissions They were organized in topical sections as follows fault attacks side channel analysis smartcards and side channel neural networks **Smart Card Research and Advanced Applications** Josep Domingo-Ferrer,David Chan,Anthony Watson,2000-09-30 Smart cards or IC cards offer a huge potential for information processing purposes The portability and processing power of IC cards allow for highly secure conditional access and reliable distributed information processing IC cards that can perform highly sophisticated cryptographic computations are already available Their application in the financial services and telecom industries are well known But the potential of IC cards go well beyond that Their applicability in mainstream Information Technology and the Networked Economy is limited mainly by our imagination the information processing power that can be gained by using IC cards remains as yet mostly untapped and is not well understood Here lies a vast uncovered research area which we are only beginning to assess and which will have a great impact on the eventual success of the technology The research challenges range from electrical engineering on the hardware side to tailor made cryptographic applications on the software side and their synergies This volume comprises the proceedings of the Fourth Working Conference on Smart Card Research and Advanced Applications CARDIS 2000 which was sponsored by the International Federation for Information Processing IFIP and held at the Hewlett Packard Labs in the

United Kingdom in September 2000 CARDIS conferences are unique in that they bring together researchers who are active in all aspects of design of IC cards and related devices and environments thus stimulating synergy between different research communities from both academia and industry This volume presents the latest advances in smart card research and applications and will be essential reading for smart card developers smart card application developers and computer science researchers involved in computer architecture computer security and cryptography Smart Card Research and Advanced Applications Pierre-Yvan Liardet, Nele Mentens, 2021-01-28 This book constitutes the proceedings of the 19th International Conference on Smart Card Research and Advanced Applications CARDIS 2020 which took place during November 18 20 2020 The conference was originally planned to take place in L Beck Germany and changed to an online format due to the COVID 19 pandemic The 12 full papers presented in this volume were carefully reviewed and selected from 26 submissions They were organized in topical sections named post quantum cryptography efficient implementations and physical attacks

**Smart Card Research and Advanced Applications** Begül Bilgin, Jean-Bernard Fischer, 2019-03-06 This book constitutes the thoroughly refereed post conference proceedings of the 17th International Conference on Smart Card Research and Advanced Applications CARDIS 2018 held in Montpellier France in November 2018 The 13 revised full papers presented in this book were carefully reviewed and selected from 28 submissions CARDIS has provided a space for security experts from industry and academia to exchange on security of smart cards and related applications *Robotics—Advances in Research and Application: 2013 Edition*, 2013-06-21 Robotics Advances in Research and Application 2013 Edition is a ScholarlyEditions book that delivers timely authoritative and comprehensive information about Autonomous Robotics The editors have built Robotics Advances in Research and Application 2013 Edition on the vast information databases of ScholarlyNews You can expect the information about Autonomous Robotics in this book to be deeper than what you can access anywhere else as well as consistently reliable authoritative informed and relevant The content of Robotics Advances in Research and Application 2013 Edition has been produced by the world's leading scientists engineers analysts research institutions and companies All of the content is from peer reviewed sources and all of it is written assembled and edited by the editors at ScholarlyEditions and available exclusively from us You now have a source you can cite with authority confidence and credibility More information is available at <http://www.ScholarlyEditions.com> *Advances in Information Technology Research and Application: 2013 Edition*, 2013-06-21 Advances in Information Technology Research and Application 2013 Edition is a ScholarlyBrief that delivers timely authoritative comprehensive and specialized information about ZZZAdditional Research in a concise format The editors have built Advances in Information Technology Research and Application 2013 Edition on the vast information databases of ScholarlyNews You can expect the information about ZZZAdditional Research in this book to be deeper than what you can access anywhere else as well as consistently reliable authoritative informed and relevant The content of Advances in Information Technology Research and Application 2013

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**Smart Card Research and Advanced Applications** Marc Joye, Amir Moradi, 2015-03-16 This book constitutes the thoroughly refereed post-conference proceedings of the 13th International Conference on Smart Card Research and Advanced Applications CARDIS 2014 held in Paris, France, in November 2014. The 15 revised full papers presented in this book were carefully reviewed and selected from 56 submissions. The papers are organized in topical sections on Java cards, software countermeasures, side-channel analysis, embedded implementations, public key cryptography, and leakage and fault attacks. *Smart Card Research and Advanced Applications VI* Jean-Jacques Quisquater, Pierre Paradinas, Yves Deswarte, 2014-01-15

**Smart Card Research and Advanced Applications** Josep Domingo-Ferrer, Joachim Posegga, Daniel Schreckling, 2006-03-28 This volume constitutes the refereed proceedings of the 7th International Conference on Smart Card Research and Advanced Applications CARDIS 2006 held in Tarragona, Spain, in April 2006. The 25 revised full papers presented were carefully reviewed and updated for inclusion in this book. The papers are organized in topical sections on smart card applications, side-channel attacks, smart card networking, cryptographic protocols, RFID security, and formal methods.

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