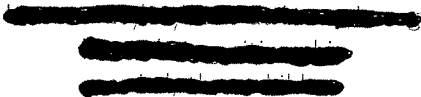


Steve Kremer | Curriculum Vitæ

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Positions

Inria Nancy Grand-Est and LORIA (Université de Lorraine, CNRS)

Inria senior research scientist, 1st class (Directeur de Recherche 1^{ère} classe) 2020 –
Inria senior research scientist, 2nd class (Directeur de Recherche 2^e classe) 2013 – 2019
Inria experienced research scientist (Chargé de Recherche 1^{ère} classe) 2011 – 2013

Inria Saclay-Île-de-France and LSV (ENS Cachan, CNRS)

Inria experienced research scientist (Chargé de Recherche 1^{ère} classe) 2006 – 2011
Inria junior research scientist (Chargé de Recherche 2^e classe) 2004 – 2006

Université du Mons-Hainaut

Adjunkt professor (Chargé d'Enseignement) 2003 – 2004

Université Libre de Bruxelles

Assistant Researcher 1999 – 2004
Student Assistant 1998 – 1999

Education

ENS Cachan

Habilitation thesis 2011

Université Libre de Bruxelles

PhD in Computer Science 2003

Université Libre de Bruxelles

Licence (M.Sc.) in Computer Science, La Plus Grande Distinction (summa cum laude) 1999

Université Libre de Bruxelles

Candidature in Computer Science, Distinction (cum laude) 1997

Lycée Hubert Clement Esch-sur-Alzette (Luxembourg)

Diplôme de fin d'études secondaires, section D (economy-mathematics), mention Bien 1995

Language skills

Luxembourgish (mother tongue), French (fluent), Dutch (fluent), German (fluent), English (fluent), Italian (good notions)

Theses

- *Modelling and analyzing security protocols in cryptographic process calculi*, Habilitation thesis, ENS Cachan, March 2011.
Jury: Martín Abadi (reviewer), Ran Canetti (reviewer), Hubert Comon-Lundh, Jean-Pierre Jouannaud, Catuscia Palamidessi (reviewer), David Pointcheval, Michael Rusinowitch, Andre Scedrov.
- *Formal Analysis of Optimistic Fair Exchange Protocols*, Ph.D. thesis, Université Libre de Bruxelles, December 2003.
Jury: Hubert Comon-Lundh, Raymond Devillers, Jean-François Raskin (co-supervisor), Yves Roggeman (supervisor), Andre Scedrov.
- *A Study of Several Non-repudiation protocols*, Master Thesis. Université Libre de Bruxelles, June 1999, *La Plus Grande Distinction*.
Jury: Y. Roggeman (supervisor), G. Latouche, T. Massart, O. Markowitch.
This thesis was awarded the *Solvay award* in May 2000.

Awards

- Noteworthy reviewer at Usenix Security'23.
- Distinguished paper award for our paper *Hash Gone Bad: Automated discovery of protocol attacks that exploit hash function weaknesses* at Usenix Security'23.
- Distinguished paper award for our paper *DEEPSEC: Deciding Equivalence Properties in Security Protocols — Theory and Practice* at the 39th IEEE Symposium on Security and Privacy (S&P'18).
- ETAPS 2017 best paper nominee for our paper *On communication models when verifying equivalence properties*.
- Our paper *Automated verification of equivalence properties of cryptographic protocol* is listed in ACM Computing Reviews' 21st Annual Best of Computing list of notable books and articles for 2016.
- Recipient of an ERC Consolidator Grant in 2014.
- Winner of the "*concours bourse de voyage 2003*" by the Wallonia-Brussels Federation in Belgium (sponsoring a two month research stay at the University of Pennsylvania, Philadelphia, USA).
- *Solvay Award* in 2000 for my Master thesis *A study of several non-repudiation protocols*.

Supervision

- PhD students:
 - Tom Gouville (11/2023 –). Co-supervised with Lucca Hirschi.
 - Vincent Diemunsch (06/2022 –). Co-supervised with Lucca Hirschi.
 - Maïwenn Racouchot (10/2021 – 12/2024). Co-supervised with Jannik Dreier.
 - Elise Klein (10/2021 –). Co-supervised with Jannik Dreier.
 - Itsaka Rakotonirina (2017 – 02/2021). Co-supervised with Vincent Cheval.
 - Charlie Jacomme (2017 – 2020). Co-supervised with Hubert Comon.
 - Ludovic Robin (2014 – 2018). Co-supervised with Stéphanie Delaune.
 - Robert Künnemann (2010 – 2014). Co-supervised with Graham Steel.
 - Ștefan Ciobâcă (2008 – 2011). Co-supervised with Véronique Cortier.
 - Antoine Mercier (2006 – 2009). Co-supervised with Ralf Treinen.

- Post-docs: Laurent Mazaré (10/2006–03/2007), Graham Steel (10/2007–08/2008), Joe-Kai Tsay (since 10/2009), Céline Chevalier (10/2010 – 08/2011), Peter Rønne (since 04/2015 – 03/2016), Ivan Gazeau (09/2016–2019), Sergiu Bursuc (02/2017–2019), Raphaëlle Crubillé (09/2019–12/2021.)
- Master students: Max Amman (2020, co-supervised with Lucca Hirschi), Corentin Hug (2019, co-supervised with Jannik Dreier), Charles Duménil (2016, co-supervised with Jannik Dreier), Itsaka Rakotonirina, (2016, co-supervised with Vincent Cheval), Ludovic Robin (2014, co-supervised with Stéphanie Delaune), Apoorva Desphande (2012, co-supervised with Stéphanie Delaune), Daniel Pasaila (2011, co-supervised with Stéphanie Delaune), Ștefan Ciobâcă (2008, co-supervised with Stéphanie Delaune), Nicolas Tanghe (2003), Jamal Saghir (2003), Sébastien Vandamme (2002, co-supervised with Olivier Markowitch).

Selected professional activities

- 2022 – Board of Directors of LIST (Luxembourg Institute of Science and Technology).
- 2020 – Scientific Directorate of Schloss Dagstuhl.
- 2018 – Head of Inria's Committee on Gender Equality and Equal Opportunities.
- 2015 – Leader of the Inria PESTO team.
- 2014 – 2019 member of the INRIA evaluation committee (this involves 2-3 Inria hiring committees each year).
- 2008 – 2011 member of the *Commission Scientifique* of Inria Saclay—Île-de-France.
- 2007 – 2011 vice-head (*responsable permanent*) of the Inria SECSI team.
- 2000 – 2004 member of the *Conseil du Département* of the computer science department, Brussels Free University.

Steering Committees

- European Joint Conferences on Theory and Practice of Software (ETAPS) (2012-2014)
- Conference on Principles of Security and Trust (POST) (2011-2015)
- IEEE Computer Security Foundations Symposium (CSF) (2010-2018)

Program Committees

- Usenix Security'25 (*34th USENIX Security Symposium*)
- CSF'24 (*37th IEEE Computer Security Foundations Symposium*)
- Usenix Security'24 (*33rd USENIX Security Symposium*)
- PETS'24 (*24th Privacy Enhancing Technologies Symposium*)
- CCS'23 (*ACM Conference on Computer and Communications Security*): **track chair**
- PETS'23 (*23rd Privacy Enhancing Technologies Symposium*)
- Usenix Security'23 (*32nd USENIX Security Symposium*)
- ESORICS'22 (*27th European Symposium on Research in Computer Security*)
- E-Vote-ID'22 (*7th International Joint Conference on Electronic Voting*)
- MOVEP'22 (*Summer school on modelling and verification of parallel processes*)
- Euro S&P'22 (*7th IEEE European Symposium on Security and Privacy*)
- PETS'22 (*22nd Privacy Enhancing Technologies Symposium*)
- Indocrypt'21 (*22nd International Conference on Cryptology in India*)
- ESORICS'21 (*26th European Symposium on Research in Computer Security*)
- E-Vote-ID'21 (*6th International Joint Conference on Electronic Voting*)
- Euro S&P'21 (*6th IEEE European Symposium on Security and Privacy*)

- Indocrypt'20 (21st International Conference on Cryptology in India)
- ESORICS'20 (25th European Symposium on Research in Computer Security)
- Euro S&P'20 (5th IEEE European Symposium on Security and Privacy)
- CSF'20 (33rd IEEE Computer Security Foundations Symposium)
- FSTTCS'19 (39th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science)
- ESORICS'19 (24th European Symposium on Research in Computer Security)
- PERR'19 (3rd Workshop on Program Equivalence and Relational Reasoning)
- Euro S&P'19 (4th IEEE European Symposium on Security and Privacy)
- ESORICS'18 (23rd European Symposium on Research in Computer Security)
- MFCS'18 (43rd International Symposium on Mathematical Foundations of Computer Science)
- Voting'18 (3rd Workshop on Advances in Secure Electronic Voting)
- Euro S&P'18 (3rd IEEE European Symposium on Security and Privacy)
- PLAS'17 (ACM SIGSAC Workshop on Programming Languages and Analysis for Security)
- ESORICS'17 (22nd European Symposium on Research in Computer Security)
- Voting'17 (2nd Workshop on Advances in Secure Electronic Voting)
- Euro SP'17 (2nd IEEE European Symposium on Security and Privacy)
- FSTTCS'16 (36th Conference on Foundations of Software Technology and Theoretical Computer Science)
- ESORICS'16 (21st European Symposium on Research in Computer Security)
- CSF'16 (29th IEEE Computer Security Foundations Symposium)
- Voting'16 (1st Workshop on Advances in Secure Electronic Voting)
- AsiaCCS'16 (11th ACM Symposium on Information, Computer and Communications Security)
- ACISP'16 (21st Australasian Conference on Information Security and Privacy)
- CryptoForma'15 (4th International CryptoForma Workshop)
- TGC'15 (10th International Symposium on Trustworthy Global Computing)
- FCS'15 (Workshop on Foundations of Computer Security)
- ESORICS'15 (20th European Symposium on Research in Computer Security)
- AsiaCCS'15 (10th ACM Symposium on Information, Computer and Communications Security)
- ICFEM'14 (16th International Conference on Formal Engineering Methods)
- ACNS'14 (12th International Conference on Applied Cryptography and Network Security)
- SEC@SAC'14 (3th edition of the Computer Security track at the 29th ACM Symposium on Applied Computing): **co-chair** with Giampaolo Bella and Manuel Barbosa
- POST'14 (3rd Conference on Principles of Security and Trust): **co-chair** with Martín Abadi
- ESORICS'13 (18th European Symposium on Research in Computer Security)
- RV'13 (4th International Conference on Runtime Verification)
- ISPEC'13 (9th International Conference on Information Security Practice and Experience)
- PoST'13 (2nd Conference on Principles of Security and Trust)
- TGC'12 (7th International Symposium on Trustworthy Global Computing)
- FSTTCS'12 (32nd Conference on Foundations of Software Technology and Theoretical Computer Science)
- CSF'12 (25th IEEE Computer Security Foundations Symposium)
- ACNS'12 (10th International Conference on Applied Cryptography and Network Security)
- ISPEC'12 (8th International Conference on Information Security Practice and Experience)
- PoST'12 (1st Conference on Principles of Security and Trust)
- FAST'11 (8th International Workshop on Formal Aspects of Security and Trust)

- PST'11 (*9th Annual Conference on Privacy, Security and Trust*)
- SecReT'10 (*5th International Workshop on Security and Rewriting Techniques*): **co-chair** with Paliath Narendran
- MoVeP'10 (*Modelling and Verifying Parallel Processes*)
- WISSEC'09 (*4th Benelux Workshop on Information and System Security*)
- SecCo'09 (*7th International Workshop on Security Issues in Concurrency*): **co-chair** with Michele Boreale
- ASIAN'09 (*13th Annual Asian Computing Science Conference*)
- VOTE-ID'09 (*Second international conference on E-voting and Identity*)
- SecCo'08 (*6th International Workshop on Security Issues in Concurrency*): **co-chair** with Prakash Panangaden
- FMSE'08 (*6th ACM Workshop on Formal Methods in Security Engineering*)
- ICICS'08 (*10th International Conference on Information and Communications Security*)
- WOTE'08 (*IAVoSS Workshop On Trustworthy Elections*)
- ISC'08 (*11th Information Security Conference*)
- ISPEC'08 (*4th Information Security Practice and Experience Conference*)
- WOTE'07 (*IAVoSS Workshop On Trustworthy Elections*)
- IMIS'07 (*Interactive Multimedia & Intelligent Services in Mobile and Ubiquitous Computing*)
- ISC'07 (*10th Information Security Conference*)
- FCC'06 (*2nd workshop on Formal and Computational Cryptography*): **co-chair** with Véronique Cortier
- WOTE'06 (*IAVoSS Workshop On Trustworthy Elections*)
- ICS'06 (*Workshop on Information and Computer Security*)
- SecUbiq'06 (*2nd international workshop on Security in Ubiquitous Computing Systems*)
- IWAP'05 (*4th International Workshop for Applied PKI*)

Editorial Boards

- Communications in Cryptology
- ACM Transactions on Privacy and Security (TOPS, previously TISSEC)
- Technical Column Editor (Security and Privacy) of ACM SigLog News.

Invited talks and tutorials

- Invited Talk at 6th Workshop on Hot Issues in Security Principles and Trust (HotSpot 2020), online, September 2020.
- Keynote speaker at the ACM SIGSAC 14th Workshop on Programming Languages and Analysis for Security (PLAS 2019), London, UK, November 2019.
- Summer School on Models and Tools for Cryptographic Proofs, Nancy, France, 2017.
- Keynote talk at 29th the IEEE Computer Security Foundations Symposium (CSF'16), Lisboa, Portugal, June 2016.
- 14th International School on Foundations of Security Analysis and Design (FOSAD'14), Bertinoro, Italy, Sep. 2014.
- 3rd International CryptoForma workshop at ESORICS, Royal Holloway, UK, Sep. 2013.
- École Jeunes Chercheurs en Programmation (EJCP'13), Rennes, France, Mai 2013.
- Colloquium in honour of Raymond DEVILLERS' 65th birthday, Brussels, Belgium, Oct. 2010.
- Computational and Symbolic Proofs of Security (CosyProofs) 2010, 37th Spring School on theoretical computer science and French-Japanese collaboration workshop, Barbizon, France.

- SecVote'10, Summer school on secure electronic voting, Bertinoro, Italy.
- Workshop at UCL, Louvain-La-Neuve, Feb. 2008.
- TFIT'08, Fourth Taiwanese-French Conference on Information Technology, Taipei, Taiwan.
- SecCo'07, 5th International Workshop on Security Issues in Concurrency, invited panelist at the panel discussion "Information hiding: state-of-the-art and emerging trends".
- Workshop on the Interplay of Programming Languages and Cryptography 2007, Sophia Antipolis, France.
- MOVEP'06, Summer school on MOdelling and VErifying parallel Processes, Bordeaux, France.

PhD committees

- Examiner and president of the jury for Haetham Al Aswad (Université de Lorraine, France), 2024.
- Reviewer for Martin Macák (Masaryk University, Czech Republic), 2023.
- Examiner and president of the jury for Gabrielle de Micheli (Université de Lorraine, France), 2021.
- Reviewer for S. Moreau (Univeristé de Rennes, France), 2021.
- Examiner and president of the jury for N. Fernandes (École Polytechnique, France and Macquarie University, Australia), 2021.
- Examiner and president of the jury for V. Elvinger (Université de Lorraine, France), 2021.
- Examiner for A. Bossuat (Univeristé de Rennes, France), 2020.
- Reviewer for C. Baritel-Ruet, PhD, Université Côte d'Azur, 2020.
- External examiner for Z. Smith (University of Luxembourg, Luxembourg), 2020.
- Reviewer and president of the jury for T. Ninet (Univeristé de Rennes, France), 2020.
- Jury member for J. M. López Becerra (University of Luxembourg, Luxembourg), 2019.
- External examiner for R. Stanley (Bristol University, UK), 2017.
- Examiner for R. David (Université de Lorraine, France), 2017.
- Examiner for M. Duclos (Université de Grenoble, France), 2016.
- Reviewer for K. Pecina (Saarland University, Germany), 2015.
- External examiner for A. Bruni (DTU, Denmark), 2015.
- External reviewer for E. Cuvelier (Université de Louvain-la-Neuve, Belgium), 2015
- Examiner and president of the jury for A. Kassem (Université Joseph Fourier, Grenoble, France), 2015
- Jury member for M. Melissen (University of Luxembourg, Luxembourg), 2013.
- Reviewer for J. Dreier (Université Joseph Fourier, Grenoble, France), 2013.
- External reviewer for S. Meier (ETH Zurich, Switzerland), 2013.
- Reviewer for M. Daubignard (Université Joseph Fourier, Grenoble, France), 2012.
- Reviewer for A. Baskar (CMI, India), 2011.
- Jury member (*examineur*) for C. Braun (École Polytechnique, France), 2010.
- External reviewer for D. Kaehler (Christian-Albrechts-Universität zu Kiel, Germany), 2008.

Projects

I am/was involved in the following projects

- PEPR Cybersécurité SVP
- ANR Chaire IA ASAP (PI)
- ERC grant SPOOC (PI)
- ANR Sequoia (PI)
- ERC ProSecure (associate member, funded by the European Research Council)
- ANR VERSO ProSe (local PI, funded by the French national research agency ANR)

- JST-CNRS project *Cryptography and logic: Computer-checked security proofs* (French PI, French-Japanese project)
- ARA SESUR AVOTÉ (local PI, funded by the French national research agency ANR),
- ARA SSIA FormaCrypt (funded by the French national research agency ANR),
- ARTIST2 European network of excellence
- RNTL PROUVÉ (funded by the French ministry of Research)
- ACI Rossignol (funded by the French ministry of Research)

Teaching

- 2013– *Theory of Computer Security* in the Master of Université de Lorraine.
- 2009–2011 Part of *Cryptographic protocols: formal and computational proofs* in the “Master Parisien de Recherche en Informatique” .
- 2007–2008 Part of *Cryptographic protocols: formal and computational proofs* in the “Master Parisien de Recherche en Informatique” .
- 2006–2007 Course on *Cryptographic Protocols* (part of the course “ Vérification de systèmes dynamiques et paramétrés”) in the “Master Parisien de Recherche en Informatique”.
- 2005–2010 Course on *Verification of Cryptographic Protocols* (part of the course “Méthodes de vérification de sécurité”) in the “Master Sécurité des Systèmes Informatiques” at Paris 12.
- 2005–2006 Exercise sessions of *Complexity* in the “Magistère” at ENS Cachan.
- 2003–2004 *Bases de Données* (Data Bases) (introduction, entity-relation model, relational model, formal query languages, SQL, integrity and security, normalization theory, specialized data structures).
- 1999–2004 Exercise sessions of *Algorithmique Générale 1* (General Algorithmics part 1) (search and sorting algorithms, recursion, basic data structures such as trees and heaps, backtracking algorithms).
- 1999–2004 Exercise sessions of *Algorithmique Générale 2* (General Algorithmics part 2) (de-recursification techniques, abstract data types, graph algorithms).
- 1999–2004 Exercise sessions of *Réseaux* (Computer Networks) (introduction to networks, network layers, TCP/IP and OSI models).
- 2001–2002 Exercise sessions of *Modèles stochastiques des systèmes informatiques* (stochastic models in computer science) (probability theory, markov chains and markovian processes applied to the modeling of computer systems).
- 2001–2002 Exercise sessions of *Modélisation informatique* (Modeling in Computer Science). (introduction to programming in C and basic algorithms, generation of stochastic variables, introduction to simulations).
- 1999–2001 Exercise sessions of *Informatique et Mathématiques de la gestion* (Computer science and mathematics applied to management) (introduction to programming in Pascal and basic algorithms, introduction to simulations).

Publications

Book chapters

- [1] Véronique Cortier and Steve Kremer. Formal models for analyzing security protocols: Some lecture notes. In Javier Esparza, Orna Grumberg, and Salomon Sickert, editors, *Dependable Software Systems Engineering*, volume 45 of *NATO Science for Peace and Security Series - D: Information and Communication Security*, pages 33–58. IOS Press, 2016.
- [2] Stéphanie Delaune, Steve Kremer, and Mark D. Ryan. Verifying privacy-type properties of electronic voting protocols: A taster. In David Chaum, Markus Jakobsson, Ronald L. Rivest, Peter Y. A. Ryan, Josh Benaloh, Mirosław Kutylowski, and Ben Adida, editors, *Towards Trustworthy Elections – New Directions in Electronic Voting*, volume 6000 of *Lecture Notes in Computer Science*, pages 289–309. Springer, May 2010.

Edited books

- [3] Martín Abadi and Steve Kremer, editors. *Proceedings of 3rd International Conference on Principles of Security and Trust (POST'14)*, volume 8414 of *Lecture Notes in Computer Science*. Springer.
- [4] Véronique Cortier and Steve Kremer, editors. *Formal Models and Techniques for Analyzing Security Protocols*, volume 5 of *Cryptology and Information Security Series*. IOS Press, 2011.
- [5] Michele Boreale and Steve Kremer, editors. *Proceedings of the 7th International Workshop on Security Issues in Concurrency (SecCo'09)*, volume 7 of *Electronic Proceedings in Theoretical Computer Science*.
- [6] Steve Kremer and Prakash Panangaden, editors. *Proceedings of the 6th International Workshop on Security Issues in Concurrency (SecCo'08)*, volume 242(3) of *Electronic Notes in Theoretical Computer Science*. Elsevier Science Publishers, August 2009.
- [7] Liqun Chen, Steve Kremer, and Mark D. Ryan, editors. *Formal Protocol Verification Applied*, volume 07421 of *Dagstuhl Seminar Proceedings*.
- [8] Véronique Cortier and Steve Kremer, editors. *Proceedings of the 2nd Workshop on Formal and Computational Cryptography (FCC'06)*.

Journals

- [9] Vincent Cheval, Steve Kremer, and Itsaka Rakotonirina. Deepsec: Deciding equivalence properties for security protocols – improved theory and practice. *TheoretiCS*, 3, 2024.
- [10] Vincent Cheval, Raphaëlle Crubillé, and Steve Kremer. Symbolic protocol verification with dice — process equivalences in the presence of probabilities. *Journal of Computer Security*, pages 1–38, 2023.
- [11] Gilles Barthe, Charlie Jacomme, and Steve Kremer. Universal equivalence and majority on probabilistic programs over finite fields. *ACM Transactions on Computational Logic*, 23(1):1–42, January 2022.
- [12] Charlie Jacomme and Steve Kremer. An extensive formal analysis of multi-factor authentication protocols. *ACM Transactions on Privacy and Security*, 24(2):13:1–13:34, January 2021.

- [13] Kushal Babel, Vincent Cheval, and Steve Kremer. On the semantics of communications when verifying equivalence properties. *Journal of Computer Security*, 28(1):71–127, 2020.
- [14] Steve Kremer and Robert Künnemann. Automated analysis of security protocols with global state. *Journal of Computer Security*, 24(5):583–616, 2016.
- [15] Rohit Chadha, Vincent Cheval, Ștefan Ciobâcă, and Steve Kremer. Automated verification of equivalence properties of cryptographic protocol. *ACM Transactions on Computational Logic*, 17(4):1–32, November 2016. **Listed in ACM Computing Reviews' 21st Annual Best of Computing list of notable books and articles for 2016.**
- [16] Myrto Arapinis, Stéphanie Delaune, and Steve Kremer. Dynamic tags for security protocols. *Logical Methods in Computer Science*, 10(2), 2014.
- [17] Véronique Cortier and Steve Kremer. Formal models and techniques for analyzing security protocols: A tutorial. *Foundations and Trends in Programming Languages*, 1(3):151–267, 2014.
- [18] Céline Chevalier, Stéphanie Delaune, Steve Kremer, and Mark D. Ryan. Composition of password-based protocols. *Formal Methods in System Design*, 43(3):369–413, 2013.
- [19] Ștefan Ciobâcă, Stéphanie Delaune, and Steve Kremer. Computing knowledge in security protocols under convergent equational theories. *Journal of Automated Reasoning*, 48(2):219–262, 2012.
- [20] Steve Kremer, Antoine Mercier, and Ralf Treinen. Reducing equational theories for the decision of static equivalence. *Journal of Automated Reasoning*, 48(2):197–217, 2012.
- [21] Stéphanie Delaune, Steve Kremer, and Graham Steel. Formal analysis of PKCS#11 and proprietary extensions. *Journal of Computer Security*, 18(6):1211–1245, November 2010.
- [22] Steve Kremer and Laurent Mazaré. Computationally sound analysis of protocols using bilinear pairings. *Journal of Computer Security*, 18(6):999–1033, November 2010.
- [23] Véronique Cortier, Steve Kremer, and Bogdan Warinschi. A survey of symbolic methods in computational analysis of cryptographic systems. *Journal of Automated Reasoning*, 46(3-4):225–259, April 2010.
- [24] Stéphanie Delaune, Steve Kremer, and Mark D. Ryan. Symbolic bisimulation for the applied pi calculus. *Journal of Computer Security*, 18(2):317–377, March 2010.
- [25] Stéphanie Delaune, Steve Kremer, and Mark D. Ryan. Verifying privacy-type properties of electronic voting protocols. *Journal of Computer Security*, 17(4):435–487, July 2009.
- [26] Mathieu Baudet, Véronique Cortier, and Steve Kremer. Computationally sound implementations of equational theories against passive adversaries. *Information and Computation*, 207(4):496–520, April 2009.
- [27] Jean Cardinal, Steve Kremer, and Stefan Langerman. Juggling with pattern matching. *Theory of Computing Systems*, 39(3):425–437, June 2006.

- [28] Rohit Chadha, Steve Kremer, and Andre Scedrov. Formal analysis of multi-party contract signing. *Journal of Automated Reasoning*, 36(1-2):39–83, January 2006.
- [29] Steve Kremer and Jean-François Raskin. A game-based verification of non-repudiation and fair exchange protocols. *Journal of Computer Security*, 11(3):399–429, 2003.
- [30] Steve Kremer and Olivier Markowitch. Fair multi-party non-repudiation protocols. *International Journal on Information Security*, 1(4):223–235, July 2003.
- [31] Steve Kremer, Olivier Markowitch, and Jianying Zhou. An intensive survey of fair non-repudiation protocols. *Computer Communications*, 25(17):1606–1621, November 2002.

Conferences

- [32] Max Ammann, Lucca Hirschi, and Steve Kremer. Dy fuzzing: Formal dolev-yao models meet cryptographic protocol fuzz testing. In *Proceedings of the 45th IEEE Symposium on Security and Privacy (S&P'24), San Francisco, CA, USA, May 2024*. IEEE Computer Society Press. To appear.
- [33] Vincent Cheval, Cas Cremers, Alexander Dax, Lucca Hirschi, Charlie Jacomme, and Steve Kremer. Hash gone bad: Automated discovery of protocol attacks that exploit hash function weaknesses. In *32nd USENIX Security Symposium (USENIX Security'23), Anaheim, CA, USA, August 2023*. USENIX Association. Distinguished paper award.
- [34] Charlie Jacomme, Steve Kremer, Elise Klein, and Maiwenn Racouchot. A comprehensive, formal and automated analysis of the edhoc protocol. In *32nd USENIX Security Symposium (USENIX Security'23), Anaheim, CA, USA, August 2023*. USENIX Association.
- [35] Vincent Cheval, Raphaëlle Crubillé, and Steve Kremer. Symbolic protocol verification with dice: process equivalences in the presence of probabilities. In *Proceedings of the 35th IEEE Computer Security Foundations Symposium (CSF'22), Haifa, Israel, August 2022*, pages 303–318. IEEE Computer Society Press.
- [36] Vincent Cheval, Charlie Jacomme, Steve Kremer, and Robert Künnemann. Saptic+ : protocol verifiers of the world, unite! In *31st USENIX Security Symposium (USENIX Security'22), Boston, USA, August 2022*, pages 3935–3952. USENIX Association.
- [37] Vincent Cheval, Steve Kremer, and Itsaka Rakotonirina. The hitchhiker's guide to decidability and complexity of equivalence properties in security protocols. In V. Nigam, C. Talcott, J. Guttman, T. Ban Kirigan, S. Kuznetsov, M. Okada, and B. Thau Loo, editors, *Logic, Language, and Security. Essays Dedicated to Andre Scedrov on the Occasion of His 65th Birthday*, volume 12300 of *Lecture Notes in Computer Science*, pages 127–145. Springer, 2020.
- [38] Gilles Barthe, Charlie Jacomme, and Steve Kremer. Universal equivalence and majority on probabilistic programs over finite fields. In Holger Hermanns, Lijun Zhang, Naoki Kobayashi, and Dale Miller, editors, *Proceedings of the 35th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS'20), Saarbrücken, July 2020*, pages 155–166. ACM.
- [39] Vincent Cheval, Steve Kremer, and Itsaka Rakotonirina. Exploiting symmetries when proving equivalence properties for security protocols. In *Proceedings of the 26th ACM Conference*

- on *Computer and Communications Security (CCS'19)*, London, UK, November 2019, pages 905–922. ACM.
- [40] Sergiu Bursuc and Steve Kremer. Contingent payments on a public ledger: models and reductions for automated verification. In *Proceedings of the 24th European Symposium on Research in Computer Security, Part I (ESORICS'19)*, Luxembourg, September 2019, volume 11735 of *Lecture Notes in Computer Science*, pages 361–382. Springer.
 - [41] Gilles Barthe, Benjamin Grégoire, Charlie Jacomme, Steve Kremer, and Pierre-Yves Strub. Symbolic methods in computational cryptography proofs. In *Proceedings of the 32nd IEEE Computer Security Foundations Symposium (CSF'19)*, Hoboken, NJ, USA, June 2019, pages 136–151. IEEE Computer Society Press.
 - [42] Sergiu Bursuc, Constantin-Cătălin Drăgan, and Steve Kremer. Private votes on untrusted platforms: models, attacks and provable scheme. In *Proceedings of the 4th IEEE European Symposium on Security and Privacy (EuroS&P'19)*, Stockholm, Sweden, June 2019. IEEE Computer Society Press.
 - [43] Vincent Cheval, Steve Kremer, and Itsaka Rakotonirina. The deepsec prover. In *Proceedings of the 30th International Conference on Computer Aided Verification, Part II (CAV'18)*, Oxford, UK, July 2018. Springer.
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