Steve Kremer | Curriculum Vitæ

Centre Inria de l'Université de Lorraine
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born on 28/08/1976 at Luxembourg
Luxembourg citizenship
married, three children

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 2e classe)	*2013 – 2019*
Inria experienced research scientist (Chargé de Recherche 1ere classe)	*2011 – 2013*

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

Inria experienced research scientist (Chargé de Recherche 1ere classe)	*2006 – 2011*
Inria junior research scientist (Chargé de Recherche 2e 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.
    - Ştefan 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), Ştefan 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 (*examinateur*) 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 Securit*, 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 Kutyłowski, 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, Ştefan 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] Ştefan 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 Maïwenn 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. Sapic+ : 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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