

2010 23rd IEEE Computer Security Foundations Symposium

(CSF 2010)

**Edinburgh, United Kingdom
17 – 19 July 2010**



IEEE Catalog Number: CFP10037-PRT
ISBN: 978-1-4244-7510-0

23rd IEEE Computer Security Foundations Symposium CSF 2010

Table of Contents

Preface	viii
Committees.....	ix
Reviewers	xi

Session 1: Quantitative Security

Approximation and Randomization for Quantitative Information-Flow Analysis.....	3
<i>Boris Köpf and Andrey Rybalchenko</i>	
Quantitative Information Flow - Verification Hardness and Possibilities.....	15
<i>Hirotooshi Yasuoka and Tachio Terauchi</i>	
Quantification of Integrity	28
<i>Michael R. Clarkson and Fred B. Schneider</i>	
Vulnerability Bounds and Leakage Resilience of Blinded Cryptography under Timing Attacks.....	44
<i>Boris Köpf and Geoffrey Smith</i>	

Session 2: Security Protocol Verification I

Modeling and Verifying Ad Hoc Routing Protocols	59
<i>Mathilde Arnaud, Véronique Cortier, and Stéphanie Delaune</i>	
Formal Verification of Privacy for RFID Systems.....	75
<i>Mayla Brusó, Konstantinos Chatzikokolakis, and Jerry den Hartog</i>	

Session 3: Privacy and Anonymity

Robustness Guarantees for Anonymity	91
<i>Gilles Barthe, Alejandro Hevia, Zhengqin Luo, Tamara Rezk, and Bogdan Warinschi</i>	
Analysing Unlinkability and Anonymity Using the Applied Pi Calculus	107
<i>Myrto Arapinis, Tom Chothia, Eike Ritter, and Mark Ryan</i>	
A Game-Based Definition of Coercion-Resistance and Its Applications	122
<i>Ralf Küsters, Tomasz Truderung, and Andreas Vogt</i>	

Session 4: Authorization

Towards Quantitative Analysis of Proofs of Authorization: Applications, Framework, and Techniques.....	139
<i>Adam J. Lee and Ting Yu</i>	
Constraining Credential Usage in Logic-Based Access Control.....	154
<i>Lujo Bauer, Limin Jia, and Divya Sharma</i>	

Session 5: Information Flow

Information Flow in Credential Systems	171
<i>Moritz Y. Becker</i>	
Dynamic vs. Static Flow-Sensitive Security Analysis	186
<i>Alejandro Russo and Andrei Sabelfeld</i>	
Information Flow Monitor Inlining	200
<i>Andrey Chudnov and David A. Naumann</i>	
Required Information Release	215
<i>Stephen Chong</i>	

Five-Minute Talks

Session 6: Security Protocol Verification II

Strong Invariants for the Efficient Construction of Machine-Checked Protocol Security Proofs.....	231
<i>Simon Meier, Cas Cremers, and David Basin</i>	
A Machine-Checked Formalization of Sigma-Protocols	246
<i>Gilles Barthe, Daniel Hedin, Santiago Zanella Béguelin, Benjamin Grégoire, and Sylvain Heraud</i>	
Impossibility Results for Secret Establishment	261
<i>Benedikt Schmidt, Patrick Schaller, and David Basin</i>	

Session 7: Security Specifications

A Framework for the Sound Specification of Cryptographic Tasks	277
<i>Juan A. Garay, Aggelos Kiayias, and Hong-Sheng Zhou</i>	
Towards a Formal Foundation of Web Security.....	290
<i>Devdatta Akhawe, Adam Barth, Peifung E. Lam, John Mitchell, and Dawn Song</i>	

Session 8: Language-Based Security

Automating Open Bisimulation Checking for the Spi Calculus	307
<i>Alwen Tiu and Jeremy Dawson</i>	
Protocol Composition for Arbitrary Primitives	322
<i>Stefan Ciobâca and Véronique Cortier</i>	
On Protection by Layout Randomization	337
<i>Martín Abadí and Gordon Plotkin</i>	
Author Index	353