

Contents

Part I First Workshop on Bitcoin Research

Bitcoin Transactions, Policy and Legal Issues

How Did Dread Pirate Roberts Acquire and Protect his Bitcoin Wealth?	3
<i>Dorit Ron and Adi Shamir</i>	
Towards Risk Scoring of Bitcoin Transactions	16
<i>Malte Möser, Rainer Böhme, and Dominic Breuker</i>	
Challenges and Opportunities Associated – With a Bitcoin-Based Transaction Rating System	33
<i>David Vandervort</i>	
Bitcoin: A First Legal Analysis With Reference to German and US-American Law	43
<i>Franziska Boehm and Paulina Pesch</i>	

Bitcoin Security

Empirical Analysis of Denial-of-Service Attacks in the Bitcoin Ecosystem . . .	57
<i>Marie Vasek, Micah Thornton, and Tyler Moore</i>	
Game-Theoretic Analysis of DDoS Attacks Against Bitcoin Mining Pools . . .	72
<i>Benjamin Johnson, Aron Laszka, Jens Grossklags, Marie Vasek, and Tyler Moore</i>	
The Bitcoin P2P Network	87
<i>Joan Antoni Donet Donet, Cristina Pérez-Solà, and Jordi Herrera-Joancomartí</i>	

Improving Digital Currencies

Fair Two-Party Computations via Bitcoin Deposits	105
<i>Marcin Andrychowicz, Stefan Dziembowski, Daniel Malinowski, and Łukasz Mazurek</i>	
Increasing Anonymity in Bitcoin.	122
<i>Amitabh Saxena, Janardan Misra, and Aritra Dhar</i>	
Rational Zero: Economic Security for Zerocoin with Everlasting Anonymity. . .	140
<i>Christina Garman, Matthew Green, Ian Miers, and Aviel D. Rubin</i>	

Bitcoin Poster Abstracts

On Offline Payments with Bitcoin (Poster Abstract)	159
<i>Alexandra Dmitrienko, David Noack, Ahmad-Reza Sadeghi, and Moti Yung</i>	
One Weird Trick to Stop Selfish Miners: Fresh Bitcoins, A Solution for the Honest Miner (Poster Abstract)	161
<i>Ethan Heilman</i>	
From Bitcoin to the Brixton Pound: History and Prospects for Alternative Currencies (Poster Abstract)	163
<i>Garrick Hileman</i>	

**Part II Applied Homomorphic Cryptography
and Encrypted Computing**

High-Speed Fully Homomorphic Encryption Over the Integers	169
<i>Xiaolin Cao, Ciara Moore, Máire O'Neill, Neil Hanley, and Elizabeth O'Sullivan</i>	
Practical and Privacy-Preserving Policy Compliance for Outsourced Data. . . .	181
<i>Giovanni Di Crescenzo, Joan Feigenbaum, Debayan Gupta, Euthimios Panagos, Jason Perry, and Rebecca N. Wright</i>	
Bandwidth Efficient PIR from NTRU	195
<i>Yarkın Doröz, Berk Sunar, and Ghaith Hammouri</i>	
Toward Practical Homomorphic Evaluation of Block Ciphers Using Prince. . . .	208
<i>Yarkın Doröz, Aria Shahverdi, Thomas Eisenbarth, and Berk Sunar</i>	
A Scalable Implementation of Fully Homomorphic Encryption Built on NTRU.	221
<i>Kurt Rohloff and David Bruce Cousins</i>	
Restructuring the NSA Metadata Program	235
<i>Seny Kamara</i>	
Author Index	249

Financial Cryptography and Data Security
FC 2014 Workshops, BITCOIN and WAHC 2014, Christ
Church, Barbados, March 7, 2014, Revised Selected
Papers
Böhme, R.; Brenner, M.; Moore, T.; Smith, M. (Eds.)
2014, XII, 249 p. 36 illus., Softcover
ISBN: 978-3-662-44773-4