

2019 Crypto Valley Conference on Blockchain Technology (CVCBT 2019)

**Rotkreuz, Switzerland
24 – 26 June 2019**



**IEEE Catalog Number: CFP19P12-POD
ISBN: 978-1-7281-3670-7**

**Copyright © 2019 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP19P12-POD
ISBN (Print-On-Demand):	978-1-7281-3670-7
ISBN (Online):	978-1-7281-3669-1

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

2019 Crypto Valley Conference on Blockchain Technology (CVCBT) CVCBT 2019

Table of Contents

Accepted Papers

Revelio: A MibleWimble Proof of Reserves Protocol	7
<i>Arijit Dutta (Indian Institute of Technology Bombay) and Saravanan Vijayakumaran (Indian Institute of Technology Bombay)</i>	
SATOS: Storage Agnostic Tokens over Opaque and Substructural Types	12
<i>Markus Knecht (University of Zurich) and Burkhard Stiller (University of Zurich)</i>	
BitVis: An Interactive Visualization System for Bitcoin Accounts Analysis	21
<i>Yujing Sun (The University of Hong Kong), Hao Xiong (The University of Hong Kong), Siu Ming Yiu (The University of Hong Kong), and Kwok Yan Lam (Nanyang Technological University)</i>	
Refinement and Verification of CBC Casper	26
<i>Ryuya Nakamura (The University of Tokyo / Research and Development, LayerX), Takayuki Jimba (Research and Development, LayerX), and Dominik Harz (Imperial College London)</i>	
Albatross – An optimistic consensus algorithm	39
<i>Pascal Berrang (Nimiq Foundation), Philipp von Styp-Rekowsky (Nimiq Foundation), Marvin Wissfeld (Nimiq Foundation), Bruno França (Trinkler Software), and Reto Trinkler (Trinkler Software)</i>	
Short Paper: Anti-Withholding Reward System to Secure Blockchain Mining Pools	43
<i>Arijet Sarker (University of Colorado Colorado Springs), Simeon Wuthier (University of Colorado Colorado Springs), and Sang-Yoon Chang (University of Colorado Colorado Springs)</i>	
Monetary Stabilization in Cryptocurrencies – Design Approaches and Open Questions	47
<i>Ingolf G.A. Pernice (Weizenbaum-Institute/Humboldt-Universität zu Berlin), Sebastian Henningsen (Weizenbaum-Institute/Humboldt-Universität zu Berlin), Roman Proskalovich (Weizenbaum-Institute/Humboldt-Universität zu Berlin/Belarusian State University), Martin Florian (Weizenbaum-Institute/Humboldt-Universität zu Berlin), Hermann Elendner (Independent), and Björn Scheuermann (Weizenbaum-Institute/Humboldt-Universität zu Berlin)</i>	

Applying Private Information Retrieval to Lightweight Bitcoin Clients	60
<i>Kaihua Qin (Imperial College London), Henryk Hadass (Imperial College London), Arthur Gervais (Imperial College London), and Joel Reardon (University of Calgary)</i>	
FastProxy: Hardware and Software Acceleration of Stratum Mining Proxy	73
<i>Guanwen Zhong (Xilinx, Singapore), Haris Javaid (Xilinx, Singapore), Hassaan Saadat (University of New South Wales, Australia), Lingchao Xu (Bitmaintech Pte. Ltd., Singapore), Chengchen Hu (Xilinx, Singapore), and Gordon Brebner (Xilinx, USA)</i>	
Whispering Botnet Command and Control Instructions	77
<i>Mathis Baden (University of Luxembourg), Christof Ferreira Torres (University of Luxembourg), Beltran Borja Fiz Pontiveros (University of Luxembourg), and Radu State (University of Luxembourg)</i>	
A Blockchain Proxy for Lightweight IoT Devices	82
<i>Gero Dittmann (IBM Research – Zurich) and Jens Jelitto (IBM Research – Zurich)</i>	
Author Index	87