

17th International Joint Conference on e-Business and Telecommunications (ICETE 2020)

DCNET, OPTICS, SIGMAP AND WINSYS

Online
8 – 10 July 2020

Editors:

**Christian Callegari
Soon Xin Ng
Panagiotis Sarigiannidis
Sebastiano Battiato
Angel Serrano Sanchez de Leon**

**Adlen Ksentini
Pascal Lorenz
Mohammad Obaidat
Jalel Ben-Othman**

ISBN: 978-1-7138-4060-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2020) by SCITEPRESS – Science and Technology Publications, Lda.
All rights reserved.

Printed with permission by Curran Associates, Inc. (2021)

For permission requests, please contact SCITEPRESS – Science and Technology Publications, Lda.
at the address below.

SCITEPRESS – Science and Technology Publications, Lda.
Avenida de S. Francisco Xavier, Lote 7 Cv. C,
2900-616 Setúbal, Portugal

Phone: +351 265 520 185
Fax: +351 265520 186

info@scitepress.org

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
Email: curran@proceedings.com
Web: www.proceedings.com

CONTENTS

INVITED SPEAKERS

KEYNOTE SPEAKERS

Enterprise Systems Architecture - Essentials <i>Henderik A. Proper</i>	5
Non-invasive Wireless Mobile System for COVID-19 Monitoring in Nursing Homes <i>Marta Botella-Campos, Sandra Viciano-Tudela, Sandra Sendra and Jaime Lloret</i>	7
Industry 4.0: Challenges from a Data Science Perspective <i>Ajith Abraham</i>	17
Secure Computation Protocol: A Technology for Our Time <i>Moti Yung</i>	19
Analysing Digital Footprints to Infer the Health of Populations and Individuals <i>Ingemar Johansson Cox</i>	21

11TH INTERNATIONAL CONFERENCE ON DATA COMMUNICATION NETWORKING

FULL PAPERS

A Learning Automata-based Algorithm for Energy-efficient Elastic Optical Networks <i>Georgia A. Beletsoti, Georgios I. Papadimitriou, Petros Nicopolitidis, Emmanouel Varvarigos and Stathis Mavridopoulos</i>	27
---	----

Pattern Detection based Network Diagnostics <i>Martin Holkovič, Michal Bohuš and Ondřej Ryšavý</i>	35
---	----

SHORT PAPERS

Identity Linking in Computer Networks <i>Libor Polčák, Ondřej Ryšavý and Petr Matoušek</i>	45
---	----

Adapting Spectrum Resources using Predicted IP Traffic in Optical Networks <i>Constantine A. Kyriakopoulos, Petros Nicopolitidis, Georgios I. Papadimitriou and Emmanouel Varvarigos</i>	53
---	----

Impact of Human and Content Factors on Quality of Experience of Online Video Streaming <i>Omer Nawaz, Markus Fiedler and Siamak Khatibi</i>	59
--	----

Machine Learning Assisted Caching and Adaptive LDPC Coded Modulation for Next Generation Wireless Communications <i>Hassan Nooh, Zhikun Zhu and Soon Xin Ng</i>	67
--	----

Introduction to LifeBlocks: A Blockchain based Insurance Platform <i>Shikhar Bhatt, Sumit Hotchandani, Kailash Raj Gaur and Sumedha Sirsakar</i>	77
---	----

A Study on Performance of Explicit Rate Report based Congestion Control under Coarse-grained Clock Management <i>Toshihiko Kato, Takumi Enda, Ryo Yamamoto and Satoshi Ohzahata</i>	82
--	----

11TH INTERNATIONAL CONFERENCE ON OPTICAL COMMUNICATION SYSTEMS

FULL PAPER

- Chalcogenide All-solid Hybrid Microstructured Optical Fiber with Flattened Normal Dispersion and High Birefringence in the mid-IR Region 93
Hoang Tuan Tong, Hoa Phuoc Trung Nguyen, Takenobu Suzuki and Yasutake Ohishi

17TH INTERNATIONAL CONFERENCE ON SIGNAL PROCESSING AND MULTIMEDIA APPLICATIONS

FULL PAPER

- SMSNet: A Novel Multi-scale Siamese Model for Person Re-Identification 103
Nirbhay Kumar Tagore and Pratik Chattopadhyay

SHORT PAPER

- Quality of Experience of 360-degree Videos Played in Google Cardboard Devices 115
Saket Vikram Singh and Markus Fiedler

17TH INTERNATIONAL CONFERENCE ON WIRELESS NETWORKS AND MOBILE SYSTEMS

FULL PAPERS

- Autonomous Sensor Node Powered over WiFi: A Use Case Study 127
Florian Grante, Ghalid Abib, Muriel Muller and Nel Samama

- An Efficient and Secure Cipher Scheme for Filter Bank Multi-Carrier Systems 133
Reem Melki, Hassan Noura and Ali Chehab

- Efficient and Secure Cipher Scheme for Limited IoT Devices 142
Hassan N. Noura, Ola Salman and Ali Chehab

SHORT PAPERS

- Efficient and Secure Statistical DDoS Detection Scheme 153
Hussein Majed, Hassan N. Noura, Ola Salman, Mohammad Malli and Ali Chehab

- Multiple Service Class TDMA Protocol for Healthcare Applications 162
Sophia Athanasiadou, Georgios Papadimitriou and Petros Nicopolitidis

- AUTHOR INDEX 167