# **2022 International Conference on Computing, Electronics & Communications Engineering** (**iCCECE 2022**)

Southend, United Kingdom 17 – 18 August 2022



IEEE Catalog Number: CFP22P74-POD **ISBN:** 

978-1-6654-8981-2

## **Copyright © 2022 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:	CFP22P74-POD
ISBN (Print-On-Demand):	978-1-6654-8981-2
ISBN (Online):	978-1-6654-8980-5

### 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



# Table of Contents (ToC)

#### Preface

Mahdi H. Miraz, Garfield Southall, Maaruf Ali and Andrew Ware

## **Technical Co-sponsors**

**Knowledge Partners** 

## **Track: Electronics, Circuits and Systems**

Fast Radix-2 Montgomery Modular Multiplication on FPGA Using Ternary	
Adder	
Radu-Mihai Coliban	
Equilibrium inside a three-phase separator from simple to complex	6-11
Geanette Polanco, Espen Johannessen and Lilibeth Zambrano	
A Hybrid MT-ToT Design for CdZnTe/SiPM in Biomedical PET Applications	12-16
Noumbissi Sidze Laure Vanessa, Folla Kamdem Jerome, Wembe Tafo Evariste,	
Essimbi Zobo Bernard, Mohammad Arif Sobhan Bhuiyan, Mahdi H. Miraz	
Ring Oscillator Design in 50 nm CMOS Technology for IoT Based Remote	17-20
Infectious Disease Monitoring System	
Mohammad Shahriar Khan Hemel, Md. Rownak Hossain, Syedul Amin, Mamun Bin Ibne Reaz, Mohammad Arif Sobhan Bhuiyan, Mahdi H. Miraz	
Physical Implementation of Low-Power Area-efficient Digital Delay Locked	21-24
Loop for High-Speed Interface in Sub -10nm Technology	
Dinesh Kumar G, Rajashree Srinidhi, Srividya P	
Track: Communications Engineering and Vehicular Technology	
mack. Communications Engineering and Venicular recimology	
SDN/NFV Enabled Security for an Enterprise Network using Commodity Hardware	25-30
Rizwan Saeed, Safwan Qureshi, Muhammad Umar Farooq and Muhammad Zeeshan	
A Context-Based Decision-Making Trust Scheme for Malicious Detection in	31-36
Connected and Autonomous Vehicles	
Emmanuel O. Eze, Simeon Keates, Kamran Pedram, Alireza Esfahani and Uchenna	
Odih	
Efficient Design of a Single-Balanced Diode Mixer for 5G Communication	37-40
Systems	
Abdelmounim Sellidj, Said Gaoua and Mustapha C.E. Yagoub	
Track: Energy and Power Systems	
Developing an Index to Support Fast Voltage Recovery Under Post-Fault	41-46
Scenario in an Industrial Microgrid	

Silvia Tasnim and Tareq Aziz

Energy Saving in Lithium-Ion Battery Manufacturing through the			
Implementation of Predictive Maintenance			
Rohin Titmarsh, Fadi Assad and Robert Harrison			
Combining Drone-based Monitoring and Machine Learning for Online			
Reliability Evaluation of Wind Turbines			
Sohag Kabir, Koorosh Aslansefat, Prosanta Gope, Felician Campean and Yiannis Papadopoulos			
CPU Thermal Management: Investigation of Fins Arrangements and Hybrid	59-64		
Water-Phase Change Materials Cooling			
Naser Ali, Husain Bahzad, Ali Alsayegh, Sayantan Mukherjee, Shikha A. Ebrahim and Nawaf F. Aljuwayhel			
Energy Saving Device: Conceptual Review and Field Measurements Ahmad Al-Subhi			
Track: Computing and IT			
Architect: A Framework for the Migration to Microservices	71-76		
Evgeny Volynsky, Merlin Mehmed and Stephan Krusche			
Secure Authentication and Session Key Management Scheme for Distributed	77-83		
Sensor Networks			
Hesham A. El Zouka and Mustafa M. Hosni			
Machine Learning for Multi-Action Classification of Lower Limbs for BCI Zilu Wang, Jichun Li, Ian Daly and Junhua Li			
The Impact of Cloud Computing on Entrepreneurship and its Implementation	90-97		
in Albania			
Fabiola Kycyku and Maaruf Ali			
TFPNet: Twice Fused Pyramid Lightweight Convolution Neural Network for	98-103		
Classification and Semantic Segmentation			
Nan Jing and Yu Zhang			
Artificial Intelligence Governance: A Study on the Ethical and Security Issues	104-111		
that Arise			
Adora Ndrejaj and Maaruf Ali			
Importance of Information Systems in the Healthcare Sector Laura Mucaraku and Maaruf Ali	112-117		