## **2019 UNSA International Symposium on Communications** (UNSA ISCOMM 2019)

Arequipa, Peru 28-29 March 2019



**IEEE Catalog Number: CFP19UNS-POD ISBN**:

978-1-7281-0844-5

## Copyright $\odot$ 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:CFP19UNS-PODISBN (Print-On-Demand):978-1-7281-0844-5ISBN (Online):978-1-7281-0843-8

## **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

DESIGN AND IMPLEMENTATION FOR A USRP – BASED VISIBLE LIGHT	
COMMUNICATIONS TRANSCEIVER	1
O. Sayco, A. Gordillo	
MONITORING SYSTEM FOR INTELLIGENT TRANSPORTATION SYSTEM BASED IN	
ZIGBEE	6
X. Heredia, C. Barriga, D. Piedra, G. Oleas, A. Flor	
DESIGN OF AN INTERNET OF THINGS ENVIRONMENT BASED ON HYSTERESIS	
CONTROL IN A PHOTOVOLTAIC PANEL CONTROLLER FOR THE MASSIVE USE OF	
SOLAR ELECTRIC ENERGY IN URBAN AREAS	12
J. de la Cruz, C. Goyzueta, J. Lipe	
AN EMBEDDED INDUCTIVE COUPLING TRANSCEIVER FOR INTERNET OF THINGS	
APPLICATIONS	18
X. Fan, W. Leon-Salas, H. Zhang	
ADDITIVE MANUFACTURING TECHNIQUES APPLIED TO THE DESIGN OF RADIO	
FREQUENCY PLANAR CIRCUITS	22
H. Martinez, E. Navarro, G. Penalva, J. Montoya, J. Suana	
PACKET ERROR RATE AND BIT ERROR RATE MEASUREMENT OF A PLC SYSTEM BASED	
ON USRPS	26
G. Choquehuanca, M. Vargas, A. Gordillo	
SHALLOW WINDOW REDUCTION FOR CONGESTION CONTROL UNDER TCP	30
A. Carletto, J. Santisteban	
Author Index	