

2016 IEEE Central America and Panama Student Conference (CONESCAPAN 2016)

**Guatemala
27 – 30 September 2016**



**IEEE Catalog Number: CFP16G88-POD
ISBN: 978-1-5090-1657-0**

**Copyright © 2016 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:	CFP16G88-POD
ISBN (Print-On-Demand):	978-1-5090-1657-0
ISBN (Online):	978-1-5090-1656-3

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

Proceedings on IEEE 35th Central America and Panama Student Conference

Table of contents

1. OFDM: Today and in the Future of Next Generation Wireless Communications.....1
2. Design, Assembly and Calibration of a microcontroller-based Geiger-Müller doserate meter.....7
3. Design of a prototype programming language in spanish and its compiler through tools Jflex and Java Cup: Study on Compilers Building.....12
4. Architecture design to optimize multipliers in FPGAs based on Maya multiplying method.....18
5. Design and Implementation of a Module to Obtain a Lagrange Interpolating Polynomial in a FPGA.....23
6. Development of a stored procedure debugger for MYSQL V5.x.....29
7. Carbon markets and renewable energy: Assessment of the feasibility of carbon markets in the Northern Triangle of Central America and Panama.....34
8. Static Forces Analysis focused in the Upper Extremity Exoskeleton of 4 DOFs Design.....40
9. Power Consumption Reduction of an Electric Shower Using a PWM Based Power Supply.....45
10. SMARTLEAF: Sensing and control of plant growth conditions - 1st Stage.....48