

2019 IEEE International Conference on Engineering Veracruz (ICEV 2019)

**Boca del Rio, Veracruz, Mexico
14 – 17 October 2019**



IEEE Catalog Number: CFP19AIF-POD
ISBN: 978-1-7281-3305-8

**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:	CFP19AIF-POD
ISBN (Print-On-Demand):	978-1-7281-3305-8
ISBN (Online):	978-1-7281-3304-1

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

Table of Contents

AUTHORS	TITLE
J. A. Pérez González, G. J. Aguirre Soler , A. García Juárez , J. R. Noriega, L. A. García Delgado, I. E. Zaldívar Huerta	Design and implementation of a third-order Chebyshev bandpass microstrip filter with coupled lines for digital television 1
Adrián Vidal, Josué Domínguez, Arturo Macgluf, Estela Fernández, Aldo G. Vázquez, Andrea Martínez, Julio Tinoco	Analysis of energy consumption due to electrical charging gadgets within educational facilities/XXXXXXXXXXXXXX
L. Angel Camacho Campos, David Araujo Diaz, Jesús A. Martínez Nuño	Vehicles Location using Probabilistic Broadcasting in Mobile Ad Hoc Networks/XXXXXXXXXXXXFH
Diego Santamaria-Guerrero, Karina Mejia-Flores, Luis Carlos Castro-Madrid, Rocio Toscano-Medina, Lidia Prudente-Tixteco, Jesus Olivares-Mercado, Karina Toscano-Medina, Gabriel Sanchez-Perez	Smoke Detection in Video using a Raspberry Pi/XXXXXXXXXXXXXJ
Rubén Villafuerte, Jesús Medina, Victorino Juárez, Erika Barojas,Rubén Abiud Villafuerte S.	An iterative method of constant slope for solution of nonlinear equations in electrical power systems/XXXXXXXXXXXXXXXXXXG
Luis Alejandro Gazca Herrera, Sergio Ignacio Parra Salmeron, Omar Zabala Arriola and Karina Culebro Castillo	Comparative study of competences in higher education students/XXXXXXXXXXXXXXXXXF
Carolina Gabriela Maldonado Méndez, Sergio Hernandez Mendez and José Daniel Hernández Ventura	Fall recognition system: a review/XXXXXXXXXXH
Oscar Ruiz, Juan Gonzalo Ardila-Marín, Quetzalcoatl Hernandez-Escobedo, Gerardo Alcalá	Energy Demand Assessment for water in the residential sector in Mexico/XXXXXXXXXXXXXXXXXXXXXX H
Gerardo García, Jorge Andaverde, José Herrera, Gerardo Alcalá, César Ramírez Gerardo Garcíaaa, Jorge Andaverdeb, José Herrerab, Gerardo Alcalác, César Ramírezb	Implemented strategies for the saving of energy in a liquid sulfur tank: Case of the maritime terminal of Coatzacoalcos, Mexico/XXXXXXXXXXXXX i

Carlos Hernández-Mejía, Sergio Hernández-Méndez, Ángel Corona-Avelizapa and Miguel Garrido-Grajales

Livia Ivette Jimenez-Raygoza, Agustín Santiago Medina-Vazquez and Griselda Perez-Torres

Karen Mirón Galán, Jorge Arturo Del Ángel, Juan Marín Hernández and Jorge Arenas Del Ángel

Daniel González-Esparza, Jesus A. Del Angel-Arroyo, Ernesto A. Elvira-Hernández, Luz Antonio Aguilera-Cortés and Agustín L. Herrera-May

Luis Alejandro Gazca Herrera, Sergio Ignacio Parra Salmeron, Guillermo Leonel Sánchez Hernández, Omar Zabala Arriola and Diana Ingrid Gaona Godos

Luis Alejandro González Mondragón, Leidy Johana Quintero Rodríguez, José Roberto Warnes Lora, Jorge Rodriguez-Asomoza, Alejandro García Juarez and Ignacio Enrique Zaldivar Huerta

Diana Isabel Gutierrez Zavaleta, Sergio Francisco Hernandez Machuca and Pablo Samuel Luna-Lozano

Silvestre Salas-Rodríguez, Francisco López-Huerta, Uriel G. Zapata-Rodríguez, Joel Molina-Reyes and Jaime Martínez-Castillo

Laura Islas, Sebastián Gutiérrez and Francisco Rodríguez

Jorge Israel Martínez Durón, Sebastián Gutiérrez and Francisco Rodríguez

Robotical Implementations of Collision-Free Path Planning for Terrestrial Systems using RGPPMAG

Guidance with Data Mining
Proposal of a Computer System for Vocational Guidance with Data Mining
EXERGETIC ANALYSIS OF A BRAYTON-STIRLING COMBINED CYCLE OPERATED WITH BIOGAS FROM A SWINE FARM
Design and Modeling of a Microfluidic Device with Potential Application for Isolation of Circulating Tumor Cells

Cross-sectional study of digital competences in the school trajectory of higher education students (E-skills)
Bandwidth Adjustment of a Microwave Filtered Signal by using an Optical Bandpass Filter

Zigbee Networks in Teaching Environments

Analysis of HfO₂ effect on the electrical performance of a-SiGe:H TFTs using 2D numerical simulations

Wireless Sensor Network Prototype to Monitor the Condition of Holding Furnaces in the Aluminum Casting Plant

Mobile Positioning for IoT-based Bus Location System Using LoRaWAN

Jorge Alvarez, Gabino Díaz and Manuel Macías

Programming logical controllers
using remote labs
and virtual reality  FG

Alexis Ortiz, Javier Garrido, Quetzalcoatl Hernandez-Escobedo, Beatris Escobedo-Trujillo

Detection of misalignment in motor
via transient
current signature analysis  FÍ

Angelica Torres-Huesca, Luis G. Montane-Jimenez,
Maximiliano Castillo-Peralta

Towards team performance
visualization in
collaborative systems  FG

Ingrid Orduña, Santiago Medina and Marco Gurrola

Virtual Motion Detection Method
Using Fuzzy Logic for an
Embedded System  FG

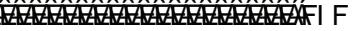
J. D. Terán Guerra, E. A. Morales González, F. López Huerta, I. Arceo Rosas, R. López Leal, J. Martinez Castillo

Patch antenna design for UHF
RFID systems  FH

Blanca Zárate, Jesús Millán, Jose Rodríguez, Iván Valencia

Financing of Photovoltaic Systems
for low
consumption users  FÍ

Emmanuel Estrada, Miriam Moreno, Karina Martín, Álvaro Lemmen-Meyer and Sebastián Gutiérrez

Low Cost CO Detector Integrated
with IoT  FI F

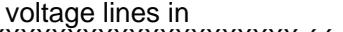
Juan Carlos Durón, Sebastián Gutiérrez and Francisco Rodríguez

Low Cost Greenhouse Monitoring
System Based on
Internet of Things  FÍ

López Riviello J.L., López Riviello E., Hernández Reyes J. A., González Escarpeta C. R.

Implementation of fuzzy controller
in different
embedded systems  F

Joseph Marín-Alvarez, Robert Poquioma-Ventura

Visual level optimization for a
device for detecting clandestine
connections in low voltage lines in
Lima-Peru  FÍ

Joseph Marin-Alvarez, Robert Poquioma-Ventura,
Juan Lara-Herrera

Temperature detection system
applied to an electrical
substation in Lima Norte  J

Erika Barojas Payan, Diana Sanchez Partida, Victorino Juarez Rivera, Ruben Villafuerte Diaz and Jesus Medina Cervantes	Plant Location, Inventory Levels and Supply of Products to Areas Affected by a Natural Phenomenon
Arturo G. Roa-Borbolla,Raul Torres Roa, Marco A. Aguilar-C., Jose L. Gutierrez-G., Reynaldo Dominguez Castillo, Luz G. Solano-Doblado	Indoor Fire Simulation with Avoidance Path Planning
Arturo G. Roa-Borbolla, Javier Garca-Narciso, Uxmal Sanchez Parra, Heriberto Hernandez-Rodrguez, Monica Ruiz-Martinez, Rosa M. Vega-Valera	Scenario Creation with Room Labelling: Iterative and Recursive Comparison
Marlene Alejandra Domínguez Sucres, Sarahí Soledad Franco Pérez, Ilse Valeria Gómez Zavala, Diana Laura Infante Ramírez, Norma Ramírez Hernández	EOG-based interface and speech recognition for wheelchair control
Luis Alberto Montemira Máliv,Jose Luis Ramirez Reyes,Miguel Ángel Hernández Pérez, Rodolfo Tiburcio Calles, Gonzalo Galicia Aguilar	Electronic Dispositive for Measure Corrosion Rate
A. Y. Y. Infante, A. E. Blanco, A. E. Jonguitud	The Exoskeleton: Electro Stimulating Rehabilitation
David Angel-Vargas, Agustin Leobardo Herrera-Maya, Jaime Martinez-Castillo*, Silvestre Salas-Rodrigueza, Francisco Lopez-Huertab, Enrique A. Morales-Gonzalezb , Elías Manjarrez-Lopezc	Matrix array of CMOS photodetectors for brain transillumination
Ruiz Gómez S., Valencia Salazar I., Guevara Infanzón J., López Riviello J.L.	Comparative of wind systems vs photovoltaic for the implementation in the electric network of Veracruz Port
Rubén Rodríguez-Huerta, Jaime Martínez-Castillo, Enrique Morales-González, Agustín L. Herrera-May	Development of a Monitoring System for CO/CO2 with Android
Carlos A. Ruiz, Yosseline Vargas Meza, Mariana Silva-Ortega, Mariano Azzur Hernández and José Hernández	Numerical Analysis of an Offshore Pratol Vessel to Work in the GoM Using the Finite Element Method

Omar López-Rojas and Jesús García Guzmán

A review on quantum dot solar cells: properties, materials, synthesis and devices  GJ

Andrea García-Cedeño, Juan Carlos Guillermo, Boris Barzallo, Catalina Punín, Angel Soto, David Rivas, Roger Clotet and Mónica Huerta

PLATANO: Intelligent Technological Support Platform for Azuay province Farmers in Ecuador  GG

Isidro Zavaleta, Sebastián Gutiérrez and Francisco Rodríguez

Internet of Things: Low Cost Monitoring BeeHive System using Wireless Sensor Network  HF

Jesus Briones-Concha, Luz Irene Pascual-Mathey, César Ignacio Beristain y Luz Alicia Pascual-Pineda

Design and characterization of liquid nanocapsules of rosemary oil (*Rosmarinus officinalis* L.)  GH

Alessandra Reyes-Flores, Carmen Mezura-Godoy, Edgard Benítez-Guerrero

Requirements Analysis for Tangible User Interfaces for Collaborative Use  G

Yoselyn Nohemi Ortega-Gijon, Carmen Mezura-Godoy

Usability Evaluation of Brain Computer Interfaces: Analysis of Methods and Tools  J

Francisco Javier Gómez González, Iván Valencia Salazar and Ángel Pérez-Navarro Gómez

Comparison of Optimization Methods for Hybrid Renewable Energy Systems  I

Julio Muñoz-Benitez, Guillermo Molero-Castillo, Edgard Benítez-Guerrero, Everardo Bárcenas and Alejandro Velázquez

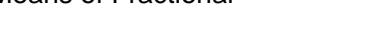
Data Fusion of Physical Variables as Bearing for User Thermal Comfort Analysis in Closed Environments  H

Alfredo Ramírez-Ramírez, Víctor F. Jiménez-Reyes, Jorge A. Vélez-Enríquez, Simón Leal-Ortiz and Jesús García-Guzmán

Study of harmonic content and influence of common electrical appliances used in residential installations  G

Juan Fernando García-Mathey, Jesús García-Guzmán, and Luz Aurora García-Mathey

Perspectives of distributed and off-grid systems for the delivering of electricity to rural areas  €

Cristian Michel Salazar-Dominguez, Alondra Donají Domínguez-Barrientos, Juan Carlos Soler-Balcazar, Carlos Arturo Cerón-Álvarez, Francisco López-Huerta, José Hernández-Hernández, Rosa María Woo-García	Graphical User Interface as a Preliminary Structural Design Educative Tool for a Vessel 
Abimael Escudero Osorio, Eddi A. García Sánchez, Gustavo Flores García, Sergio F. Hernández Machuca, Pablo S. Luna Lozano	Evaluation of Wireless Network Based on ZigBee Technology Using XBee Modules 
Otero-Escobar Alma D., Gonzale-Benitez Ruben, Ramirez-Sanchez Jesus, and Garizurieta-Bernabé Jessica	Virtual and Remote Experimentation in Database Learning 
Ignacio Sanchez, Victorino Juarez, Guadalupe Vivar, Nayeli Gutierrez, Luis Alberto Sanchez, Luis Alberto Sanchez, Concepcion Guillermín, Eduardo Baltazar	Production of biogas under thermophilic and mesophilic conditions of fruit and vegetable waste from the "Emiliano Zapata" market in Orizaba, Veracruz 
Lucero Guadalupe Dominguez Reyes, Leticia Cuellar Hernandez, Luis Julian Varela Lara, Sergio Francisco Hernandez Machuca, Jacinto Enrique Pretelin Canela	DEVELOPMENT OF A PROTOTYPE FOR OCULAR MONITORING WITH INFRARED LIGHT 
Mario Gonzalez-Lee, Luis Javier Morales-Mendoza, Jesús Enrique Escalante-Martinez, Celia Maria Calderon-Ramon, Ivan Del Angel De Gaona Marquez., Marco Antonio Salas Moreno, Ludim Hernandez Cadenas and Rene Fabian Vazquez-Bautista	Decreasing False Positive Detection of Gaussian Watermarks by Means of Fractional Calculus Principles 
Miguel Angel Pérez-Jiménez, Jaime Martínez-Castillo, Enrique Morales-González, Agustín L. Herrera-May	A Portable and Wireless System for Monitoring Hand Tremors in Parkinson's Disease Patients 