

2017 XIII International Engineering Congress (CONIIN 2017)

**Santiago de Queretaro, Mexico
15-19 May 2017**



**IEEE Catalog Number: CFP17H10-POD
ISBN: 978-1-5386-1695-6**

**Copyright © 2017 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:	CFP17H10-POD
ISBN (Print-On-Demand):	978-1-5386-1695-6
ISBN (Online):	978-1-5386-1694-9

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

2017 XIII International Engineering Congress (CONIIN)

1	Otorres, Adrianes; Soto Zarazua, Genaro Martín	Potassium acrylate: a novelty in hydroponic substrates. 1
2	Barrera Hernández, David Eduardo; Salgado Jiménez, Tomás; García Valdovinos, Luis Govinda; Nava Balanzar, Luciano	Control of a hybrid glider (Kay Juul H) with regulation of roll : Preliminary results in real time 9
3	Velázquez González, Roberto; Rodríguez Reséndiz, Juvenal; Gómez Lemus, Teresa de Jesús	A pH Process Control Embedded on a PLC Using Fuzzy Logic 15
4	Colom Reyes, Fernanda; Soriano Gómez, Alexandro; Hernandez Martínez, Juan; Trejo Perea, Mario; Ríos Moreno, José Gabriel; Chávez Alegría, Omar	Rainwater harvesting for household use 21
5	Peña Herrejón, Guillermo Abraham; Sánchez Velázquez, Julieta; Cruz Hernández, Andrés; Aguirre Becerra, Humberto; García Trejo, Juan Fernando	Breeding system for Astyanax mexicanus 26
6	Arellano Beltrán, Jhonam; Rico García, Enrique; Hernández Pérez, César Iván	A new simple canopy photosynthesis measurement system 30
7	Olvera González, Gloria; Nava Mendoza, Rufino; Hernández Morales, Verónica; Peza Ledesma, Carmen L.	Silica displaying red and textural mesoporosity synthesized by double templating procedure 35
8	Toledo Pérez, Diana Carolina; Martínez Prado, Miguel Ángel; Márquez Gutiérrez, Miguel Ángel; Rodríguez Reséndiz, Juvenal; Tovar Arriaga, Saúl	IIR Digital Filter Design Implemented on FPGA for Myoelectric Signals 39
9	Arriaga Madrid, Daniel Alejandro; Guevara Gonzalez, Ramón Gerardo; Feregrino Perez, Angélica;	Production of glucosinolates in different organs of white mustard plant (Sinapis alba L.) as a result of the application of hydrogen peroxide 46

10	Rodríguez Calzada, Tania; Torres Pacheco, Irineo; Feregrino Pérez, Ana Angélica; Rico García, Enrique; Contreras Medina, Luis Miguel; Guevara González, Ramón Gerardo;	Methylation profile and phenotypical changes in <i>Capsicum annum</i> L. under water deficit and H ₂ O ₂ application 52
11	García Martínez, José Román; Rodríguez Reséndiz, Juvenal; Cruz Miguel, Edson Eduardo; Martínez Prado, Miguel Ángel	Assessment of Jerk Performance S-curve and Trapezoidal Velocity Profiles 56
12	Velázquez Luna, Leandro; Ventura Ramos, Eusebio Jr.	Concentrated Flow through Gabions Weirs 63
13	Amador Ultreras, Norma Teresa; Nava Mendoza, Rufino; Velázquez Castillo, Rodrigo Rafael; Peza Ledesma, Carmen; Navarro Castro, Georgina; Olvera Torres, Ma. Guadalupe; Paz Gonzales, Ma. Vanessa	Development of functionalized mesoporous meshes DMS-1 applicable for the adsorption and removal of mercury in water 67
14	Gaspar Badillo, José Eduardo; Ramos Arreguín, Juan Manuel; Macías Bobadilla, Gonzalo; Talavera Velázquez, Dimas; Rivas Araiza, Edgar Alejandro; Hernández Barrón, Víctor Alexis	Four DOF Pneumatic Robot Design and Hardware Interface 72
15	Cabello Suárez, Laura Yessenia; Pérez Rea, María De La Luz; Galaviz González, Roberto; Rojas, Eduardo; Hernández Mendoza, Christian Eduardo	Impact of diesel contamination on the compressibility of a clayey soil 79
16	Valenzuela Delgado, Jesus Ivan; Crespo Sánchez, Saúl Enrique; Pérez Lara y Hernández, Miguel Ángel; Carrión Viramontes, Francisco Javier; Horta Rangel, Jaime; Arrollo Contreras, Moisés	Evaluation of load distribution factors in prestressed bridges in México 84
17	Gutierrez Villalobos, José Marcelino; Talavera Velázquez, Dimas; Mora Vázquez, Julio C.	Simple and low cost scanner 3D system based Time-of-Flight ranging sensor 91
18	Pérez Cruz, Angel; Stiharu, Ion; Domínguez González, Aurelio	Lorentz force actuation of paper-based electromechanical systems 96
19	Macías Bobadilla, Israel; Vargas Hernández, Marcela; Macías Bobadilla, Gonzalo; Rico García, Enrique; Guevara González, Ramón Gerardo; Torres Pacheco, Irineo	Rhizobox experimentation module for the study of the rhizosphere 100
20	Fortanell Trejo, Mabel; Ventura Ramos, Eusebio Jr.	Reduction of boron in water for use in agriculture 104
21	Cárdenas Manríquez, Germán; Guevara González, Ramón Gerardo; Cruz Hernández, Andrés	Determination of molecular communication network in transgenic tobacco expressing CchGLP gene. 108
22	Villasana Barrera, Tanis	On the Banach-Mazur's distance in the plane 117