CONFERENCEx

CCE

2022

International Conference on Electrical Engineering, Computing Science and Automatic Control

NOVEMBER

9-11, 2022

Schedule

CCE 2022

Part Number USB: CFP22827-USB
ISBN USB: 978-1-6654-5507-7
Part Number Xplore Compliant: CFP22827-ART
ISBN Xplore Compliant: 978-1-6654-5508-4
Online ISSN: 2642-3766

www.cce.cinvestav.mx
### Schedule CCE 2022

**Wednesday November 9th, 2022**

<table>
<thead>
<tr>
<th>Hour</th>
<th>Room 1</th>
<th>Room 2</th>
<th>Room 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-11:30</td>
<td></td>
<td></td>
<td>Opening Ceremony and Plenary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prof. Silviu-Iulian NICULESCU, PhD.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Directeur de Recherche au CNRS, membre de l’équipe Inria</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot;Disco&quot; France.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Title:</strong> &quot;Delay as a control parameter. A guided tour&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Session Chair:</strong> Dr. Daniel Alejandro Melchor Aguilar</td>
</tr>
<tr>
<td>11:30-12:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00-14:00</td>
<td>SSM 1 / NANO 1</td>
<td>CS 1</td>
<td>AC 1</td>
</tr>
<tr>
<td>14:00-16:00</td>
<td>SSM 2</td>
<td>BIO 1</td>
<td>MEC</td>
</tr>
</tbody>
</table>

### Thursday November 10th, 2022

<table>
<thead>
<tr>
<th>Hour</th>
<th>Room 1</th>
<th>Room 2</th>
<th>Room 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00-11:00</td>
<td>SSM 3 / NANO 2</td>
<td>POW</td>
<td>COMM/AE</td>
</tr>
<tr>
<td>11:00-11:30</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30-12:30</td>
<td>Plenary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof. Daniel Ulises Campos Delgado, PhD.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professor of Autonomous University of San Luis Potosi (UASLP).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mexico.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Title:</strong> “Hybrid Classification Approach for Correlated Multimodality Images: Unmixing Processing + Artificial Intelligence”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Session Chair:</strong> Dr. Daniel Alejandro Melchor Aguilar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30-13:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00-14:00</td>
<td>Plenary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof. Antonio Ramírez Treviño, PhD.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professor of Center for Research and Advanced Studies of the National Polytechnic Institute - CINVESTAV, Guadalajara, Mexico.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Title:</strong> Fault Diagnosis in Petri Nets</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Session Chair:</strong> Dra. Susana Ortega Cisneros</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00-16:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00-18:20</td>
<td>SSM 4 / NANO 3</td>
<td>BIO 2</td>
<td>AC 2</td>
</tr>
<tr>
<td>Hour</td>
<td>Room 1</td>
<td>Room 2</td>
<td>Room 3</td>
</tr>
<tr>
<td>--------------</td>
<td>--------</td>
<td>--------</td>
<td>-----------------</td>
</tr>
<tr>
<td>9:00-11:00</td>
<td>NANO 4</td>
<td>BIO 3</td>
<td>AC 3</td>
</tr>
<tr>
<td>11:00-11:30</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30-12:30</td>
<td></td>
<td></td>
<td>Plenary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prof. Qiang Huang, PhD.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Professor, Fellow of IISE and ASME. Epstein Department of Industrial and Systems Engineering. University of Southern California. United States of America (USA).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Title: &quot;An Impulse Response Formulation for Machine Learning of 3D Printing Accuracy&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Session Chair: Dr. Wen Yu Liu</td>
</tr>
<tr>
<td>12:30-13:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00-14:20</td>
<td>SSM 5</td>
<td>CS 2</td>
<td>MEE</td>
</tr>
<tr>
<td>14:30-14:50</td>
<td></td>
<td></td>
<td>Closing ceremony</td>
</tr>
</tbody>
</table>
# TECHNICAL PROGRAM

## Session AC 1 - Automatic Control
**Wednesday November 9th, 2022**
**12:00-14:00**
**Room 3**
**Session Chair:** Dr. Rubén Garrido Moctezuma

<table>
<thead>
<tr>
<th>ID</th>
<th>Hour</th>
<th>Presenters</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID 14</td>
<td>12:00-12:20</td>
<td>Jocabed Mendoza, Adolfo Perrusquia and Juan Alejandro Flores Campos.</td>
<td><em>Mechanical Advantage Assurance Control of Quick-return Mechanisms in Task Space</em></td>
</tr>
<tr>
<td>ID 56</td>
<td>12:20-12:40</td>
<td>Miguel Rosas Jiménez, Miguel Ramírez Barrios, Manuel Mera Hernández, Rodrigo Mora Martínez and Alejandro Florencio.</td>
<td><em>Design and Performance Evaluation of PID Controllers for a Buck Converter for Electrosurgical Units</em></td>
</tr>
<tr>
<td>ID 61</td>
<td>12:40-13:00</td>
<td>Olga Lidia Jiménez Morales, Jessica Jazmín Maldonado and Rubén Garrido.</td>
<td><em>Robust Adaptive Control of Servo Systems</em></td>
</tr>
<tr>
<td>ID 108</td>
<td>13:00-13:20</td>
<td>Jesús Guerrero, Jorge Torres and Monica Zúñiga.</td>
<td><em>Improvement of the PD controller Based on the Disturbance Observer for Trajectory Tracking in Underwater Vehicles</em></td>
</tr>
</tbody>
</table>

## Session AC 2 - Automatic Control
**Thursday November 10th, 2022**
**16:00-18:20**
**Room 3**
**Session Chair:** Dr. Miguel Bernal

| ID 15 | 16:00-16:20 | Juan Javier Montesinos García, Jorge Luis Barahona-Ávalos, Yoswaldo Gómez-Cabrera, Jesús Linares-Flores and José Antonio Juárez-Abad. | *Modeling and control for a class of non-linear systems with non-affine polynomial control input* |
| ID 18 | 16:20-16:40 | Rafael Duarte, Raymundo Márquez, Miguel Bernal and Adolfo Soto.          | *New Results for Stability Analysis of Time-Delay Nonlinear Systems Represented by Exact Takagi-Sugeno Models* |
| ID 23 | 16:40-17:00 | Suresh Thenozhi, Ulises Mondragón Cárdenas and Antonio Concha Sánchez.  | *Observer Design for a Duffing-Holmes System with Uncertainties*                                |
Juan J. López Solórzano and Yuriy S. Shmaliy.
*H∞ FIR Filter Gain Computation for Disturbed Systems using Linear Matrix Inequality*

Marco A. Gomez, Christopher D. Cruz-Ancona and Leonid Fridman.
*Safe Sliding Mode Control*

Jorge Enrique Ayala-Carrillo, Christian Alejandro Trejo-Ramos, Ernesto Olguín-Díaz and Vicente Parra-Vega.
*Backstepping Control for Tracking of Solenoid Valve Actuated Pneumatic Continuum Soft Robots*

**Session AC 3 - Automatic Control**
*Friday November 11th, 2022*  
*9:00-11:00*  
*Room 3*  
**Session Chair:** Dr. Efren Mezura

Chadi Riman and Pierre E. Abi-Char.
*A Priority-based Modified A* Path Planning Algorithm for Multi-Mobile Robot Navigation*

Diego Tristán-Rodríguez, Rubén Garrido and Efrén Mezura-Montes.  
*Tuning of a Modified Model Reference Adaptive Controller using a PSO Algorithm*

Jorge Alberto Lizárraga Rodríguez, José Javier Ruíz León and Edgar Nelson Sánchez Camperos.  
*Phymastichus-Hypothenemus-based Algorithm for Optimal Node Selection on Pinning Control of Complex Networks*

Juan Manuel Ibarra-Zannatha, Oscar González Miranda, Cruz Barrera Ramírez, Luis Antonio López Miranda, Samuel Rudyard Arellano Aguilar and Luis Ángel Dario Osuna Castañeda.  
*Integration of Perception, Planning and Control in the AutoMINY 4.0*

**Biomedical Engineering/ Biomimetics (BIO)**

**Session BIO 1- Biomedical Engineering/ Biomimetics**  
*Wednesday November 9th, 2022*  
*16:00-18:20*  
*Room 2*  
**Session Chair:** Dr. Luis Antonio García Espinosa

*Comparative Study on Cooling System Antenna versus Non-Cooling System Antenna in Multilayer Phantoms using Low Treatment Power*
*Unity Lower limb Motion Capture Application*

ID 118 16:40-17:00  Juan Pablo Cavazos Carrizales and Francisco José Ruiz Sánchez.  
*Computer Vision Interface for Symbolic Programming of Cartesian Motion to introduce Visually Impaired Children into Robotic Sciences*

ID 43 17:00-17:20  Laura Ivonne Flores-Nuñez, José Alberto García-Limón, Frank Martínez-Suárez, Ramon Casanella and Carlos Alvarado-Serrano.  
*J Wave Detection Algorithm of the BCG in Chair and Bed using Continuous Spline Wavelet Transform*

ID 5 17:20-17:40  Lauro Armando Contreras Rodríguez, Eladio Cardiel, Ángel Llanas Soto, José Antonio Barraza Madrigal and Pablo Rogelio Hernández Rodríguez.  
*Human Upper Limb Motion Recognition Using IMU sensors and Artificial Neural Networks*

ID 35 17:40-18:00  Luis Carlos Olivares Rueda, Aldo Yair Tenorio Barajas, Claudia Oliva Mendoza Barrera and Víctor Manuel Altuzar Aguilar.  
*Simulation of PCR Kinetics in Convective Flow Systems*

*Training with a Neurofeedback System for the Control of a Drone Using Electroencephalographic Signal*

**Session BIO 2 - Biomedical Engineering/ Biomimetics**

*Thursday November 10th, 2022*

16:00-18:20  
**Room 2**  
**Session Chair:** Dr. Luis Antonio García Espinosa

ID 62 16:00-16:20  Rafael Bayareh Mancilla, Wilfrido Gómez Flores, Christian Daul, Josefina Gutiérrez, Lorenzo Leija, Didier Wolf and Arturo Vera.  
*Consideration for segmentation based on radiometric data processing, towards the research of quantitative medical thermography*

ID 74 16:20-16:40  Hugo S. Gamboa, Laura Delgado Rangel, Fernando Pérez Escamirosa, José Antonio Gutiérrez Gneechi, José Rubén Huerta Osnaya and Daniel Lorias Espinoza  
*Device, Continuous Passive Motion-CPM, for the rehabilitation of motor skills of the forearm and wrist using a mobile application and Arduino*

ID 114 16:40-17:00  Matias Alvarado, Ivan Valdespin, Moises León and Sergio Alcalá.  
*Genetic Network of Breast Cancer Metastasis in Lymph Nodes via Information Theory Algorithms*

ID 111 17:00-17:20  Carlos Andrés Cortés Aguilar, Vicente Parra Vega and Nadia Vanessa García Hernández.  
*An Immersive Haptic Wearable Hand Exoskeleton*
Frank Martínez-Suárez, José Alberto García-Limón, Dalila Rivera-Córdova, Laura Ivonne Flores-Nuñez, Oscar Casas and Carlos Alvarado-Serrano. 
*Long-Term Continuous Ambulatory ECG Monitor with Beat-to-Beat Heart Rate Measurement in Real Time using ESP32*

Oliverio Arellano Cardenas, Luis Martín Flores Nava, Felipe Gómez Castañeda and José Antonio Moreno Cadenas. 
*ECG Arrhythmia Classification for Comparing Pre-Trained Deep Learning Models*

*Analysis of a Sole-Profile Definition in an Ankle Foot Orthosis Device*

Session BIO 3 - Biomedical Engineering/ Biomimetics
*Friday November 11th, 2022*
*9:00-11:00*
*Room 2*
*Session Chair: Dr. Fernando Pérez Escamirosa*

Daniela Ávila-Cabrera, Rafael Bayareh-Mancilla, Arturo Vera-Hernández, Josefina Gutiérrez-Martínez and Lorenzo Leija-Salas. 
*Clinical and Thermographic Database of Patients with Diabetes Mellitus with Perspective for Quantitative Studies.*

Jorge Alberto Rodríguez Ramírez, Mario Ibrahin Gutiérrez Velasco, Arturo Vera Hernández, Carlos Alther Negreira Caseres and Lorenzo Leija Salas. 
*Acoustic and Thermal Analysis in Blood Vessel into Muscle for Pressure Study Related to Cavitation*

Marzela Sánchez Osti, Jesús Carlos Pedraza Ortega, Luis Antonio Salazar Licea, Efrén Gorrostieta Hurtado and Cecilia Gabriela Rodríguez Flores. 
*Comparison of Key Point Detector Methods for Microcalcification’s ROI Identification on Breast Images: An alternative to SIFT.*

Dalila Rivera-Córdova, Frank Martínez-Suárez, José Alberto García-Limón and Carlos Alvarado-Serrano. 
*Automatic Delineation Algorithms of ECG Atrial Electrical Activity Waves Based on the Continuous Wavelet Transform with Splines*

Edel-Serafín Hernandez-Gomez, Jose-Luis Olvera-Cervantes and Nefi-David Pava-Chipol. 
*Microwave dielectric spectroscopy for determination of ethanol concentration in brandy*

Cecilia Gabriela Rodríguez Flores, Jesús Carlos Pedraza Ortega, Luis Antonio Salazar Licea, Marco Antonio Aceves Fernández and Marzela Sánchez Osti. 
*A survey of approaches in Deep Learning techniques for the detection and classification of mammography abnormalities.*
Communications systems (COMM) / Aeronautics and Aerospace Engineering -Autonomous Navigation (AE)

Session COMM /AE
Thursday November 10th, 2022
9:00-11:00
Room 3
Session Chair: Dr. Gaspar González Briseño

ID 72 9:00-9:20 Ramakrishna Vakulabharanam and Anil Kumar Tipparti.
Low complexity and High Performance Sphere Detection Technique for MIMO Communication Systems

ID 122 9:20-9:40 Giselle M. Galván-Tejada, Miguel Herraiz-Sarachaga, Mario Mendoza-Barcenas and Zian Aguirre.
Space Weather observations and HF transmissions around the 2021 autumn equinox

ID 127 9:40-10:00 Luis Adolfo Luna-Rodríguez, Francisco Javier Rodríguez-Navarrete, Susana Ortega-Cisneros, Miguel Rivera-Acosta, Jorge Rivera-Domínguez and Juan José Raygoza Panduro.
Implementation of 8-Channel Pulse Width Modulation with AXI4-Lite Interface

ID 12 10:00-10:20 Jorge Aguilar-Torrentera, Giselle M. Galván-Tejada and José Ramón Rodríguez-Cruz.
Capacitively Coupled Bandpass Filter Using Defected Ground Structure Featuring Shield Current Control

ID 46 10:20-10:40 Fernando Duarte López, Juan Manuel Bustamante, José Leonel Sánchez, Luis Héctor Manjarrez, Filiberto Muñoz Palacios and Eduardo Steed Espinoza.
A Strategy for Airfoils Selection in the Design of Customized Aircraft Models for Flight Simulation Testing

ID 81 10:40-11:00 Gandhi Alexis Sinhue Contreras Torres, Rodolfo García Rodríguez, Carlos Roberto Domínguez Mayorga and Eduardo Steed Espinoza Quesada.
Adaptive Backstepping Control for the Longitudinal Flight of a Blended Wing Body Aircraft

Computer Science and Computer Engineering (CS)

Session CS 1 - Computer Science and Computer Engineering
Wednesday November 9th, 2022
12:00-14:00
Room 2
Session Chair: Dr. Mario Garza Fabre

ID 48 12:00-12:20 Ali Alouache.
Experimental Validation of Nonlinear Optimization Frameworks for Solving Bundle Adjustment in Structure from Motion
*Autoencoder-based unsupervised anomaly detection for Covid-19 screening on chest x-ray images*

ID 69 12:40-13:00  Krishna Kumar A, Deepika D and Ramakrishna V.  
*Design of smart fertilizer chain system from factory to farmer*

ID 78 13:00-13:20  Carlos Alexander Osorio Quero, Daniel Durini, José de Jesús Magdaleno, José Martínez Carranza and Rubén Ramos-García.  
*2D NIR-SPI spatial resolution evaluation under scattering condition*

*Exploring nonlinear effects of air pollution on hospital admissions by disease using gradient boosting machines*

**Session CS 2 - Computer Science and Computer Engineering**  
Friday November 11th, 2022  
13:00-14:20  
Room 2  
Session Chair: Dr. Adan José García

ID 16 13:00-13:20  Marisol Vera-Arellano and Ernesto López-Mellado.  
*Discovering a class of Workflow Nets with Reduced Exceeding Language*

*Supplier classification by applying AutoML*

ID 82 13:40-14:00  José M. Macías-Macías, Juan A. Ramírez-Quintana, Alejandro A. Torres-García and Mario I. Chacón-Murguía.  
*Recognition of P300 Wave and SSVEP using a Capsule Neural Network*

ID 29 14:00-14:20  Andrés Hernández Pineda, Norma Patricia Muñoz Sevilla and José Antonio Moreno Cadenas.  
*Data Analytics Application of NOM-172-Semarnat-2019: Mexico City Case Study*

**ID  Hour**

**Mechatronics (MEC)**

**Session MEC - Mechatronics**  
Wednesday November 9th, 2022  
16:00-18:20  
Room 3  
Session Chair: Dr. Juan Fernando Peza Solís

ID 33 16:00-16:20  Mario Salama, Nouran Adel and Ayman El-Badawy.  
*Multi-Robot Flocking Control Using Multi-Agent Twin Delayed Deep Deterministic Policy Gradient*
ID 64  16:20-16:40  Ahmed Alrefaie, Mohamed Ibrahim and Hesham Ibrahim.
Semi-Active Road-Vehicle Dynamics by implementing Neuro-Fuzzy Controlled damper

ID 8   16:40-17:00  Héctor S. Sánchez-Villegas, Luis G. Trujillo-Franco and Hugo F. Abundis-Fong.
On the evaluation of free-decay and impulse-response modal testing techniques

ID 119 17:00-17:20  Isaac Alejandro García Briones, Benjamín Nicolas Trinidad, Salatiel García Nava, Fabrice Le Bars, Sergio Salazar Cruz and Fliberto Muñoz Palacios.
Development of a vision algorithm for close-range relative navigation of underwater vehicles

ID 125 17:20-17:40  Luis Martin Hernández-Villa, Daniel Alejandro Melchor-Aguilar and Gerardo Silva-Navarro.
On implementation of delayed resonator with position and velocity feedback

ID   Hour  Mechanical Engineering (MEE)

Session MEE - Mechanical Engineering
Friday November 11th, 2022
13:00-14:20
Room 3
Session Chair: Dr. Oscar Alejandro García Pérez


On the validation of an acoustic black hole in Euler-Bernoulli beams: experimental results

ID 123 13:40-14:00  Javier Leal-Gutiérrez, David Romero-González and Oscar Alejandro Garcia-Perez.
Experimental Modal Analysis for a T09 AEROMAX type Aircraft’s Mechanical Structure

ID 124 14:00-14:20  David Romero-González, Javier Leal-Gutiérrez and Oscar Alejandro Garcia-Perez.
Optimal Positioning for Energy Harvesters on a T09 AEROMAX type Aircraft’s Wing

ID   Hour  Nanotechnology (Materials and Applications) (NANO)

Session NANO 4 - Nanomaterials and Applications
Friday November 11th, 2022
9:00-11:00
Room 1
Session Chair: Dra. María de la Luz Olvera Amador
ID 2 9:00-9:20  Francisco Javier Gómez Cano, Odin Reyes Vallejo, Jose Juan Jhonatan Diaz Lopez, Velumani Subramaniam and Abdelhadi Kassiba.  
*Effect of the oxidation degree on the bandgap of graphene oxides by Tour method*

*Nanostructured Films of Bi2SeO5 Deposited by Pulsed Laser Ablation*

ID 55 9:40-10:00  Carina Gutiérrez Ojeda, Mario Moreno Moreno, Ponciano Rodríguez Montero, Alfredo Morales Sánchez, Víctor Aca and Leticia Tecuapetla Quechol.  
*Effect of thermal annealing on the photoluminescence properties of bilayer arrays of SiO2 and TiO2 nanospheres and its application as down conversion layers in c-Si solar cells*

ID 73 10:00-10:20  Alberto Antonio Espinoza Peyrot and Luis Alberto Castellanos Rivera.  
*Simulation of square diaphragm as substrate for nanostructured thin film underwater acoustic transducers*

*Influence of the composition of glass substrates on CH3NH3PbI3 films properties deposited by Spin-Coating*

---

**Power Electronics**

**Session POW- Power Electronics**

*Thursday November 10th, 2022  
9:00-11:00  
Room 2  
Session Chair: Dr. Mario Andrés Aguilar*

ID 88 9:00-9:20  Roberto Morales Caporal, Omar Sandre Hernández and Andrés A. Valdés Fernández.  
*Model Predictive Control for Single-Phase Cascaded H-Bridge Five-Level Inverter*

*Estimation and Detection of Oscillations in Electrical Power Systems*

ID 10 9:40-10:00  José Díaz-Bernabé and Arturo Morales-Acevedo.  
*Adaptive incremental conductance as a highly efficient maximum power point tracking algorithm for photovoltaic systems under partial shading*

ID 19 10:00-10:20  Mario Andrés Aguilar Orduña, Hebertt Sira Ramírez and Brian Camilo Gómez León.  
*Maximum Power Point Tracking for direct drive Wind Turbines: An Active Disturbance Rejection Control approach*
ID 70  10:20-10:40  Santosh Yadav Maddu and Nitin Ramesh Bhasme. Performance analysis of Direct Torque Control of Induction Motor using Snetly real-time Controller

ID 57  10:40-11:00  Amit Kumar. Power Quality Issues and Harmonics Performance Analysis for Non Linear Load in Power Distribution System

ID  12:00-14:00  Room 1  Session Chair: Dr. Gabriel Romero Paredes

ID  12:00-12:20  Rosa Nava-Sánchez, Gaspar Casados and Arturo Morales-Acevedo. Effect of the P3HT concentration in the precursor solution on the crystallinity of annealed P3HT thin films prepared by spin-coating


ID  12:40-13:00  Daniel Trejo-Zamudio, José Guadalupe Quiñones-Galván, Francisco Javier de Moure-Flores, María Lucero Gómez-Herrera and José Santos-Cruz. Structural and thermoelectric properties of SnO2:Bi thin films

ID  13:00-13:20  Hichem Ferhati, A Bendjerad, Faïcal Djeffal, A Benhaya and A Saidi. Effects of annealing on the structural and optical properties of sputtered SiC/Ag/SiC multilayer


Session SSM 2 - Synthesis and Characterization of Materials  
Wednesday November 9th, 2022  
16:00-18:20  
Room 1  
Session Chair: Dr. Mauricio Ortega López

ID 13 16:00-16:20  
Ashok Adhikari, Hugo César Ramos López, Odín Reyes Vallejo and Dr. Velumani Subramaniam.  
*Study the Effect of Annealing Treatment on the Properties of CdS Thin Films Grown by the Chemical Bath Deposition Method*

ID 22 16:20-16:40  
Olaf Ramirez-Iturbe, Rosa María Nava-Sánchez and Arturo Morales-Acevedo.  
*On the stability of CsxA(1-x)PbI3 layers obtained by a single step spin coating process*  

ID 102 16:40-17:00  
Jian E. Tineo Soto and Arturo Morales-Acevedo.  
*Optical, Morphological and Structural Properties of Hybrid CH3NH3PbBr3 Perovskite Thin Films Deposited via a Single Step Spin-Coating Process*  

ID 65 17:00-17:20  
*FeOOH, α-Fe2O3, and ZnFe2O4 thin films grown by electrodeposition method: Study for photoanode development*  

ID 83 17:20-17:40  
Jonathan Ortiz Vázquez, Ramón Peña Sierra, Lucía Ivone Juárez Amador and Miguel Galván Arellano.  
*Amorphous-Ga2O3/GaAs(100) anisotype heterojunctions with amorphous-Ga2O3 n-type films grown by magnetron sputtering*  

Session SSM 3 /NANO 2- Semiconductor Devices  
Thursday November 10th, 2022  
9:00-11:00  
Room 1  
Session Chair: Dr. Yasuhiro Matsumoto

ID 120 9:00-9:20  
José Josué Rodríguez Pizano, Luz Margarita Balcázar Villatoro, Arturo Maldonado Álvarez and María de La Luz Olvera Amador.  
*Study of sensing properties of ZnTe synthesized by mechanosynthesis for detecting gas CO*  

ID 76 9:20-9:40  
F Djeffal and Hichem Ferhati.  
*New Ge-gate IR Phototransistor based on Doping Engineering Aspect: Photodetection Properties and Circuit Level Investigation*  

ID 75 9:40-10:00  
F Djeffal and Hichem Ferhati.  
*Numerical Investigation of a New GeSn MIR Phototransistor based on IGZO TFT Platform*  

ID 1 10:00-10:20  
*Electrostatic Model for Semiconductor Radial Nanowire Heterojunctions*
ID 92  10:20-10:40  Eduardo González and Iván R. Padilla.  
*Class AB Differential Amplifier Implemented as an Impedance Gyrator and its Applications*

ID 98  10:40-11:00  Goban Kumar Panneer Selvam, María de La Luz Olvera Amador and Arturo Maldonado Alvarez.  
*Fabrication of pure tin oxide pellets at different annealed temperatures for CO and C3H8 gas sensors*

**Session SSM 4 / NANO 3 Solar Cells/Photocatalysis**  
Thursday November 10th, 2022  
16:00-18:20  
Room 1  
**Session Chair: Dra. María Verónica Estrella**

ID 42  16:00-16:20  Ariadna Daniela García Caballero, Karen Rodríguez Rosales, Sandra Andrea Mayén Hernández, Claudia Elena Pérez García, José Santos Cruz and Francisco Javier de Moure Flores.  
*Optoelectronic properties of CdS thin films doped with F by CBD and its application in CdTe-based solar cells*

ID 9  16:20-16:40  Ashok Adhikari, Luis Dorian Valencia, Jorge Conde and Dr. Velumani Subramaniam Ordóñez.  
*Simulation of Theoretical and Experimental Parameters of Materials Used in CIGSe Thin Film Solar Cells by SCAPS software*

ID 107  16:40-17:00  Ian Carlos Flores-Contreras, Victor Cabrera-Arenas and Luis Martin Resendiz-Mendoza.  
*Analysis of Irregular Morphologies and Mobilities of Organic Solar Cells by Simulation*

ID 38  17:00-17:20  Salomón Moreno Alcocer, Karen Rodríguez Rosales, Jorge Cruz Gómez, José Santos Cruz, Angel Guillén Cervantes and Francisco Javier de Moure Flores.  
*Substrate temperature effect of CdTe films grown by PLD on photovoltaic properties of CdS/CdTe solar cells*

ID 79  17:20-17:40  José Josué Rodríguez Pizano and María De La Luz Olvera Amador..  
*Photocatalytic degradation of Malachite Green dye from ZnTe powders under visible light*

ID 68  17:40-18:00  Rodrigo Dominguez, Maria Verónica Estrella, Jaime Vega and Arturo Maldonado.  
*Efficient photodecoloration catalysts, based on ZnO nanoparticles coated in two steps on glass substrates*

**Session SSM 5 - VLSI**  
Friday November 11th, 2022  
13:00-14:20  
Room 1  
**Session Chair: Dr. Felipe Gómez Castañeda**
ID 3  13:00-13:20  Alvaro Anzueto-Rios, Felipe Gomez-Castaneda, Luis Martín Flores-Nava, and José-Antonio Moreno-Cadenas
   *Metaheuristic Method for Dimensionality Reduction Tasks*

ID 31  13:20-13:40  Iván Shin Cao Chong-Cervantes, Álvaro Anzueto-Ríos, José Antonio Moreno-Cadenas, Mario Alfredo Reyes-Barranca and Luis Martín Flores-Nava.
   *Eye Fundus Image Processing Using Fuzzy Logic*