

M.Sc. Luis Diego Murillo Soto

lmurillo@itcr.ac.cr | 2550 9347

Información Laboral

Cédula: 109320672**Tipo de nombramiento:** Propiedad**Fecha de contratación:** 19/07/2002**Sede:** Cartago**Escuela:** Ingeniería Electromecánica**Correo:** lmurillo@itcr.ac.cr**ORCID:** 0000-0002-6601-1082

Educación

COVAO, Técnico in Electrónica – Costa Rica	1994
Instituto Tecnológico de Costa Rica, Bachillerato in Ingeniería en Mantenimiento Industrial – Costa Rica	1999
Instituto Tecnológico de Costa Rica, Maestría in Ingeniería en Computación – Costa Rica	2004
CNAD, Especialización in Robótica Industrial – México	2004
Universidad de Costa Rica, Maestría in Ingeniería Electrica – Costa Rica	2016
Instituto Tecnológico de Costa Rica, Doctorado in Sistemas Fotovoltaicos – Costa Rica	2022

Carrera Profesional

Profesor Adjunto	01/07/2007
Profesor Asociado	01/07/2012
Profesor Catedrático	01/07/2018
Profesor Catedrático Paso1	01/09/2021
Profesor Catedrático Paso2	01/07/2024

Publicaciones

Distributed Detection Algorithm for Photo-Voltaic Solar Arrays Based on Least Significant Difference Test	2025
Luis D. Murillo-Soto, Carlos Meza, Cindy Calderón-Arce 10.1007/978-3-031-85324-1_3 (Communications in Computer and Information Science)	
Low-Cost IoT System Prototype to Detect Supbotimal Conditions in PV Arrays	2025
Leonardo Cardinale-Villalobos, Luis D. Murillo-Soto, Rubén Brenes 10.1007/978-3-031-85324-1_1 (Communications in Computer and Information Science)	
Detection of Suboptimal Conditions in Photovoltaic Systems Integrating Data from Several Domains	2024
Leonardo Cardinale-Villalobos, Luis D. Murillo-Soto, Efrén Jimenez-Delgado, Jose Andrey Sequeira 10.1007/978-3-031-52517-9_2 (Communications in Computer and Information Science)	
Validation of an outdoor efficiency model for photovoltaic modules	12/9/2022

- Luis Diego Murillo-Soto, Carlos Meza-Benavides
[10.17533/udea.redin.20220991](https://doi.org/10.17533/udea.redin.20220991) (Revista Facultad de Ingeniería Universidad de Antioquia)
- Evaluación de la producción energética para el sistema fotovoltaico con microinversores instalado en el edificio de rectoría del Tecnológico de Costa Rica** 1/8/2022
 Luis Diego Murillo-Soto, Hugo Sánchez-Ortiz, Carlos Meza
[10.18845/tm.v35i7.6334](https://doi.org/10.18845/tm.v35i7.6334) (Revista Tecnología en Marcha)
- Quantitative Comparison of Infrared Thermography, Visual Inspection, and Electrical Analysis Techniques on Photovoltaic Modules: A Case Study** 2/3/2022
 Leonardo Cardinale-Villalobos, Carlos Meza, Abel Méndez-Porras, Luis D. Murillo-Soto
[10.3390/en15051841](https://doi.org/10.3390/en15051841) (Energies)
- Detection Criterion for Progressive Faults in Photovoltaic Modules Based on Differential Voltage Measurements** 1/3/2022
 Luis Diego Murillo-Soto, Carlos Meza
[10.3390/app12052565](https://doi.org/10.3390/app12052565) (Applied Sciences)
- Automated Fault Management System in a Photovoltaic Array: A Reconfiguration-Based Approach** 23/4/2021
 Luis D. Murillo-Soto, Carlos Meza
[10.3390/en14092397](https://doi.org/10.3390/en14092397) (Energies)
- Detection of Suboptimal Conditions in Photovoltaic Installations for Household-Prosumers** 2022
 Dalberth Corrales, Leonardo Cardinale-Villalobos, Carlos Meza, Luis Diego Murillo-Soto
[10.1007/978-3-030-78901-5_3](https://doi.org/10.1007/978-3-030-78901-5_3) (Lecture Notes in Networks and Systems)
- Experimental Comparison of Visual Inspection and Infrared Thermography for the Detection of Soling and Partial Shading in Photovoltaic Arrays** 2021
 Leonardo Cardinale-Villalobos, Carlos Meza, Luis D. Murillo-Soto
[10.1007/978-3-030-69136-3_21](https://doi.org/10.1007/978-3-030-69136-3_21) (Communications in Computer and Information Science)
- Photovoltaic Array Fault Detection Algorithm Based on Least Significant Difference Test** 2020
 Luis Diego Murillo-Soto, Carlos Meza
[10.1007/978-3-030-61834-6_43](https://doi.org/10.1007/978-3-030-61834-6_43) (Communications in Computer and Information Science)
- Fault detection in solar arrays based on an efficiency threshold** 2/2020
 Luis D. Murillo-Soto, Carlos Meza
[10.1109/lascas45839.2020.9069046](https://doi.org/10.1109/lascas45839.2020.9069046) (2020 IEEE 11th Latin American Symposium on Circuits & Systems (LASCAS))
- Diagnose Algorithm and Fault Characterization for Photovoltaic Arrays: A Simulation Study** 2020
 Luis D. Murillo-Soto, Carlos Meza
[10.1007/978-3-030-37161-6_43](https://doi.org/10.1007/978-3-030-37161-6_43) (Lecture Notes in Electrical Engineering)
- A Simple Temperature and Irradiance-Dependent Expression for the Efficiency of Photovoltaic Cells and Modules** 11/2018
 Luis D. Murillo-Soto, Carlos Meza
[10.1109/CONCAPAN.2018.8596458](https://doi.org/10.1109/CONCAPAN.2018.8596458) (2018 IEEE 38th Central America and Panama Convention (CONCAPAN XXXVIII))
- Detección de faltas en motores eléctricos con base en índices de potencias y redes neuronales** 22/3/2018
 Luis Diego Murillo-Soto, Cindy Calderón-Arce, Geovanni Figueroa-Mata
[10.18845/tm.v31i1.3499](https://doi.org/10.18845/tm.v31i1.3499) (Revista Tecnología en Marcha)

- Diseño e implementación del sistema de diagnóstico de fallos usando redes de petri interpretadas y coloreadas** 22/3/2018
Luis Diego Murillo-Soto
[10.18845/tm.v31i1.3493](#) (Revista Tecnología en Marcha)
- Identification of the Internal Resistance in Solar Modules Under Dark Conditions Using Differential Evolution Algorithm** 7/2018
Luis D. Murillo-Soto, Geovanni Figueroa-Mata, Carlos Meza
[10.1109/IWOBI.2018.8464197](#) (2018 IEEE International Work Conference on Bioinspired Intelligence (IWOBI))
- Voltage measurement in a reconfigurable solar array with series-parallel topology** 11/2017
Luis D. Murillo-Soto, Carlos Meza
[10.1109/CONCAPAN.2017.8278484](#) (2017 IEEE 37th Central America and Panama Convention (CONCAPAN XXXVII))
- Automation of small-scale with Open Hardware** 3/3/2015
Luis Diego Murillo-Soto
[10.18845/tm.v28i1.2188](#) (Revista Tecnología en Marcha)
- Diseño del programa de control para una celda de manufactura flexible didáctica** 1/9/2014
Luis Diego Murillo-Soto
[10.18845/tm.v27i3.2065](#) (Revista Tecnología en Marcha)