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Dipartimento di Ingegneria Industriale
(DIN), CIRI – Meccanica Avanzata e
Materiali (CIRI-MAM)

Eriel Pérez Zapico, Mechanical Engineer

Education

Sep 2004 – Jun 2009 **Central University "Marta Abreu" of Las Villas**, Degree in
Mechanical Engineering, Santa Clara, Cuba

Sep 2009 – May 2013 **Central University "Marta Abreu" of Las Villas**, Master II Level in
Mechanical Engineering, Santa Clara, Cuba

Research Experience

Feb 2015 – July 2018 **International project**

Governmental Scholarship Project research:

1. CMT welding parameter optimization (2015)
2. Simulation and experimental validation of weld join in CMT welding process (2016)
3. Laser Cladding: 3D print of pieces in 316L (2018)

Alma Mater Studiorum Università di Bologna, Dipartimento di
Ingegneria Industriale, CIRI – Meccanica Avanzata e Materiali.

Feb 2014 – Sep 2019 **Professor**

Central University "Marta Abreu" of Las Villas, Welding Research
Center
Santa Clara, Cuba

Areas of research are related to CMT Welding Technology, Finite
Element Modeling in Arc Welding, Laser welding, Laser cladding and
NDT Inspection of Joints Welded by Active Infrared Thermography.

Oct 2019 – present **Research fellow**

Università di Bologna, Dipartimento di Ingegneria Industriale, CIRI
Meccanica Avanzata e Materiali

22/09/2022



Teaching experience

- Feb 2014 – Sep 2019* **Professor**
Central University "Marta Abreu" of Las Villas · Welding Research Center
Santa Clara, Cuba
In the undergraduate course teach Welding Process Technology and Manufacture Process.
- Oct 2019 - present* **Research fellow**
Università di Bologna, Dipartimento di Ingegneria Industriale, Centro Interdipartimentale Meccanica Avanzata e Materiali
Technological optimization of laser welding on high-reflective materials for battery production

Skills & Activities

- Skills* Environmental Impact Assessment, Thermography, Contamination, Infrared Thermography, Pollution, Welding, Mechanical Engineering, COMSOL Multiphysics, Finite Element Method, Manufacturing Engineering, Materials Chemistry, Engineering Thermodynamics, Modeling and Simulation
- Languages* Spanish, Italian, English

Books

- Eriel Pérez Zapico: “La inspección de soldaduras mediante termografía infrarroja activa: Metodología para la estimación de defectos subsuperficiales en uniones soldadas mediante termografía infrarroja activa”. Editorial Académica Española; ISBN-13: 978-620-2-25391-8
- “The welding inspection using Active Infrared Thermography: Methodology for the estimation of subsurface defects in welded joints”*

Journal Publications

- Eriel Pérez Zapico, Alessandro Ascari, Vincenzo Dimatteo, and Alessandro Fortunato: Laser dissimilar welding of copper and steel thin sheets for battery production. Journal of Laser Applications 33, 012016 (2021), ISSN 1938-1387; <https://doi.org/10.2351/7.0000309>
- Eriel Pérez Zapico, Carlos René Gómez Pérez: Double ellipsoidal energetic oscillatory model for arc welding. Ingeniería Mecánica. 01/2019; 22 (1):14-22; ISSN 1815-5944.

http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1815-59442019000100014&lng=en&nrm=iso&tlng=en

Eriel Pérez Zapico, Carlos René Gómez Pérez, Eduardo Fírvida: *Progettazione e fabbricazione mediante applicazioni laser di lampade da arredo urbano*. Applicazioni Laser, 02/2019; 64; ISSN 1973 – 7238. <http://applicazioni-laser.it/2019/02/12/progettazione-e-fabbricazione-mediante-applicazioni-laser-di-lampade-da-arredo-urbano/>

Eriel Pérez Zapico, Adrian H. A. Lutey, Alessandro Ascari, Carlos R. Gómez Pérez, Erica Liverani, Alessandro Fortunato: *An improved model for cold metal transfer welding of aluminium alloys*. Journal of Thermal Analysis and Calorimetry. 11/2017; DOI:10.1007/s10973-017-6800-8. <https://link.springer.com/article/10.1007/s10973-017-6800-8>

Daniel Pérez-Pérez, Carlos-René Gómez-Pérez, Eriel Pérez-Zapico, Rafael Quintana-Puchol, Lorenzo Perdomo-González: *Application of granulated slag with air to automatic welding*. Revista de Ingeniería Mecánica; 04/2015; 18(1):62-70. ISSN 1815-5944. http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1815-59442015000100007&lng=es&nrm=iso&tlng=en

Eriel Pérez Zapico, Alejandro Duffus Scott, Carlos René Gómez Pérez, Freddy Santo Castillo: *Welding defects observation and quantification through digital thermographic images processing*. Revista de Ingeniería Mecánica; 12/2013; 16(3):246. ISSN 1815-5944. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1815-59442013000300009

Daniel Pérez Pérez, Carlos René Gómez Pérez, Francisco Arturo Ruiz Martínez, Eriel Pérez Zapico: *Parámetros de origen del proceso de dispersión con aire de fundentes fundidos*. Revista Cubana de Ingeniería; 04/2011; 2(1), DOI:10.1234/rci.v2i1.39; ISSN 2223-1781; <http://rci.cujae.edu.cu/index.php/rci/article/view/39/44>

Daniel Pérez Pérez, Carlos René Gómez Pérez, Francisco Arturo Ruiz Martínez, Jorge Victor Miguel Oria, Rafael Quintana Puchol, Lorenzo Perdomo Gonzalez, Amado Cruz Crespo, Eriel Pérez Zapico: *Estudio del proceso de fragmentación de fundentes fundidos usando aire*. Revista Cubana de Ingeniería; 2011; 2(2); ISSN 2223-1781; <http://rci.cujae.edu.cu/index.php/rci/article/view/47>

Conference Proceedings

Eriel Pérez Zapico, Alessandro Ascari, Alessandro Fortunato: *Effect of laser cladding parameters on dilution and weld bed geometry in 316l stainless steel*. Recent Topics on Mechanics and Materials in Design. Bologna, Italy, 4-6 September 2019

Eriel Pérez Zapico, Carlos R. Gómez Pérez: *Weld joints metallography characterization in aluminum alloys AA5754 joint by Cold Metal Transfer welding process*. X International

22/03/2022



Scientific Conference on Mechanical Engineering COMEC 2019, Cayo Santa María. Villa Clara, Cuba; 06/2019

Carlos René Gómez Pérez, Eriel Pérez Zapico: Aplicación computarizada para estimación geométrica de zona fundida, campos de temperatura y ciclos térmicos durante soldadura. 8vo Encuentro de Tecnología y Gestión del Conocimiento TECNOGESC 2018. Santa Clara, Villa Clara, Cuba; 10/2018. ISBN 978-959-234-124-1

Eriel Pérez-Zapico, Carlos René Gómez Pérez, Jairo O'farril-Laza: *Criteria on the physical models for evaluation of thermal cycles in metal welding deposition*. IX International Scientific Conference on Mechanical Engineering COMEC 2016, Cayo Santa María. Villa Clara, Cuba; 06/2016

Eriel Pérez Zapico, Carlos R. Gómez Pérez, René E. de Luna Alanis, Juan A. Pozo Morejón: *Recent research about heat, mass and electrical charge transfer modeling of electric arc welding*. VIII International Scientific Conference on Mechanical Engineering COMEC 2014, Cayo Santa María, Villa Clara, Cuba; 11/2014, DOI:10.13140/2.1.2747.8720

Eriel Pérez Zapico: *Infrared Thermography application in the detection of welding defects*. VII International Scientific Conference on Mechanical Engineering COMEC 2012, Cuba; 11/2012

Daniel Pérez Pérez, Carlos René Gómez Pérez, Eriel Pérez Zapico: *Physical model of the air granulation phenomenon of fused fluxes*. V International Conference. Innovative technologies for joining advanced materials, 2011, Timisoara.

Eriel Pérez Zapico: *Methodology for the estimation of contaminants during the melting process of welding fluxes*. International Scientific Conference Environment XXI Century, MAS XXI, Santa Clara, Villa Clara, Cuba; 11/2009, DOI:10.13140/2.1.2849.1526

Other

Journal referee Optics & Laser Technology