

Dr. Francisco Fernando Curiel Lopez

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Francisco Fernando Curiel Lopez

Profesor Investigador Titular “A”

Formación académica

Doctorado

Doctorado en Ciencias en Metalurgia y Ciencia de los Materiales, Universidad Michoacana de San Nicolás de Hidalgo, 16 de diciembre de 2011

Posdoctorado/Sabático

Reconocimiento SNI

NIVEL: II

Vigencia: 1 de enero del 2026 a 31 de diciembre del 2030

PRODEP

Si __X_ No __

Vigencia: 1 de enero de 2026 a 31 de diciembre de 2028

Líneas de Investigación e Incidencia Social (LIES)

LIES-1 Soldadura, Comportamiento Mecánico, Corrosion

Publicaciones

- Sliding wear behavior of AISI 1045 carbon steel plates weld overlay with EnDOTec DO15 using CMT. Rafael Cortés-Rodríguez, Victor Hugo López-Morelos Ricardo Rafael Ambriz, Eduardo Cortés-Carrillo, Teresita del NJ Sanchez Cruz, **F F Curiel López**, Surface and Coatings Technology (2025), DOI:10.1016/j.surfcoat.2025.132803.
- T del N. J. Sánchez, V.H. López, J.A. González, H. Granados, **F.F. Curiel**. Electrochemical impedance spectroscopy study of the passive state of 316L/2205 dissimilar welded joints. *Vacuum*, Vol xx, p 1-10 **(2025)** ISSN: 1879-2715.

- L.A. Lobato, G. Gutierrez, **F.F. Curiel,** V.H. López, M.C. Ramírez, R.R. Ambriz. Evaluation of the microstructure and mechanical properties of the ERNiCrMo-3 electrode in the welding of API 5L X-70 steel cladded with AISI 316L-Si stainless steel. *MRS Advances*, Vol xx, p 1-6 **(2025)** ISSN: 2059-8521.
- M.C. Ramírez, V.H. López, J.C. Verduzco, R. Garcia, **F.F. Curiel,** H. Phase reduction in the heat-affected zone of Ni-Cr-Mo steel welded by the submerged arc welding process with electromagnetic interaction of low intensity. *MRS Advances*, Vol xx, p 1-6 **(2024)** ISSN: 2059-8521.

- E. Cortés, R. Cortés, V.H. López, **F.F. Curiel,** H. Microstructural characterization ER 80S-D2 on AISI H13 hot work tool steel using DP-GMAW processes. *MRS Advances*, Vol xx, p 1-5 **(2024)** ISSN: 2059-8521.

- J.H. Miranda, V.H. López, E. Cortés, **F.F. Curiel,** R. Cortés. Microstructural analysis of cladding on AISI H13 tool steel by GMAW conventional and GMAW-P process with frequency variation. *MRS Advances*, Vol xx, p 1-6 **(2024)** ISSN: 2059-8521.
- M. Aguirre, J.A. Verduzco, **F.F. Curiel,** V.H. López, H. Granados. Microstructural characterization of MIG brazing ERCuAl cladding on API 5L X70 steel. *MRS Advances*, Vol xx, p 1-7 **(2024)** ISSN: 2059-8521.
- J.A. Rodríguez, V.H. López, A. Ruiz, **F.F. Curiel,** J. Reyes. Structural analysis by SEM-EBSD of the transverse section of the dissimilar weld SASS Al-6XN-DSS 2205 . *MRS Advances*, Vol xx, p 1-6 **(2024)** ISSN: 2059-8521.
- R. Cortes, R.R. Ambriz, V.H. López, E. Cortes **F.F. Curiel**. Mechanical properties of AISI 1045 carbon steel plates weld overlay with EnDOTec DO15 using CMT and GMAW-P. *The International Journal of Advanced Manufacturing Technology*, Vol 132, p3535-3551. **(2024)** ISSN: 1433-3015.

- M. García, **F.F. Curiel,** J.J. Taha, V.H. López, J.J. J.C. Verduzco, C. García. Reduction in porosity in GMAW-P welds of CP780 galvanized steel with ER70S-3 electrode using the Taguchi methodology. *Metals*, Vol 14 (857), p1-13. **(2024)** ISSN: 2075-4701.

- H. Granados, V.H. López, A. Ruiz, T. del. N.J. Sanchez, **F.F. Curiel,** J.A. Gonzalez, Influence of ageing treatment time on microsctructural evolution, sensitization and self-healing of Inconel 600. *Journal of Alloys and Compounds*, Vol 994, p1-16. **(2024),** p174655, ISSN: 0925-8388.

- J. Cesar Garcia, **F.F. Curiel,** V.H. López, J.J. Taha, T del N. J. Sánchez, M.C. Ramírez, E. Cortes, Miguel. Quinones. Impact of welding parameter in the porosity of a dissimilar welded lap joint of CP800-XPF 1000 steel weldment by GMAW-P. *Metals*, Vol 14 (309), p1-16. **(2024)** ISSN: 2075-4701.

- T del N. J. Sanchez, V.H. López, F.F. Curiel, A Ruiz, J.A. Gonzalez, H. Granados. Influence of the GMAW transfer mode on the mechanical bejaviour and corrosion resistance of the 316L-2205 dissimilar weld. *MRS Advances*, Vol xx, p 1-10 **(2023)** ISSN: 2059-8521.

- T del N. J. Sanchez, F.F. Curiel, V.H. López, J.A. González, A Ruiz, E. Carrillo. Optimization of macro and microstructural characteristics of 316L/2205 dissimilar welds obtained by the GMAW-pulsed process. *Materials Today Communications*, Vol 34, p 1-14 **(2023)** ISSN: 23524928.

- L.A. Lobato, **F.F. Curiel,** V.H. López, M.A. García. Taguchi methodology approach on microstructural and mechanical properties of bimetallic welded joints of API 5L X52/AISI 316L-Si. *MRS Advances*, Vol 8 (2), p 27-33 **(2023)** ISSN: 2059-8521.

- M.C. Ramírez, R.R. García V.H. López, **F.F. Curiel**. Analysis of grain growth in the heat-affected zone in welding of microalloyed carbon steels. MRS Advances, Vol 7 (33), p 1038-1043 **(2022)** ISSN: 2059-8521.

- M.A. Mata. García, R.R. Ambríz, J.A. Cabral, V.H. López, M.C. Ramírez, **F.F. Curiel**. Microstructural Evolution of Inconel 718 during aging and its correlation with electric conductivity measurements. *Materials Performance and Characterization,* Vol 11 (1), p 1-12 **(2022)** ISSN: 2165-3992.

- H. Granados, V.H. López, A. Contreras, **F.F. Curiel,** R. García, J.A. Gonzalez, E. Cortés. Susceptibility of dissimilar IN600 welded joints

to stress corrosion cracking using slow strain rate test in sodium electrolytes. *Metals*, Vol 12 (530), p1-16. **(2022)** ISSN: 2075-4701.

- B.A. Pichardo, M. Salazar, V.H. López, R. García, **F.F. Curiel**. Application of magnetic fields to weld overlay cladding to improve its performance in the oil and gas industry. *Journal of Manufacturing Science and Engineering,* Vol 144 (9), p1-9. (**2022**) ISSN: 1087-1357.

- A.J. Romero, J.J. Taha, R. De Luna, V.H. Morelos, M.C. Ramírez, M. Salazar, **F.F. Curiel**. Evaluation of microstructural and mechanical behavior of AHSS CP780 steel welded by GMAW-pulsed and GMAW-pulsed-brazing processes. *Metals,* Vol 12 (530),0 p1-16. (**2022**) ISSN: 2075-4701.

- R. Morales, V.H. López, D. Cholico, **F.F. Curiel,** M.A. García, L. Falcón, V.H. Martínez. Effect of the processing parameter on the fabrication of MgAl2O4 foams. *Materials,* Vol. 14 , p5945-5966, (**2021**) ISSN: 1996-1944.

- H. Granados, V.H. López, M.A. García, A. Ruiz R. García, A. Ruiz, **F.F. Curiel,** M.R. Barajas. Ramber-Osgood stress strain analysis of the effect of aging treatment and welding on IN600 with a three stage strain hardening behavior. *Metals and Materials International,* Vol. 1 (1), p01-12, (**2021**) ISSN: 2005-4149.

- S.L. Hernández, V.H. López, M.A. García, R. García, A. Ruiz, **F.F. Curiel.** Microstructure and fatigue behavior of 2205/316L stainless Steel dissimilar welded joints. *Metals,* Vol. 11 (1), p93-120, (**2021**) ISSN: 2075-4701.

- **F.F. Curiel,** R. García, V.H. López, M.A. García, A. Contreras, M.A. García. The effect of applying magnetic fields during welding AISI-304 stainless Steel on the stress corrosion cracking. *International Journal of Electrochemical Science,* Vol 16, p01-20 (**2021**) ISSN:1452-3981.

- T. Rodríguez, V.L. Cruz, M.A. García, R. Torres, S. García, **F.F. Curiel**, L.A. Falcón. First assessment on the microstructure and mechanical properties of gtaw-gmaw hybrid welding of 6061-t6 AA.

Jorunal of Manufacturing Processes, Vol. 59, p658-667 (**2020**) ISSN: 1526-6125.

- M.L. Hernández, M.J. Soria, J.L. Acevedo, R.R. Ambriz, **F.F. Curiel**. Welding input effect on the corrosión behavior and microstructure of heat treated GTAW welds of Inconel 718. *International Journal of Electrochemical Science,* Vol 14, p4083-4049 (**2019**) ISSN:1452-3981.

- J.S. Reyna, M.A. García,, V.L. Cruz, **F.F. Curiel**, L.R. Dzib, L.A. Falcón. Effect of electromagnetic interaction on microstructure and corrosion resistance of 7075 aluminium alloy during modified indirect electric arc welding process. *Transactions of Nonferrous Metals Society of China,* Vol. 29 p473-484 (**2019**) ISSN: 1003-6326.

- J.L. del Abra, M.A. García, V.L. Cruz, J. García, V.H. Martínez, L.A. Falcón, **F.F. Curiel**. Study of effect of sigma phase precipitation on the sliding wear and corrosion behaviour of duplex stainless steel AISI 2205. *Wear,* Vol 400-401, p43-51, **(2018)** ISSN:0043-1648.

- M.C. Ramírez, L.A. Falcón, **F.F. Curiel**, P. Zambrano, J.A. Cabral, C. Gaona, F. Almeraya. Electrochemical reactivation of AISI 409 stainless Steel sheet welded by Laser process with application in aeronautical. *International Journal of Electrochemical Science,* Vol.12, p4928-4939, (**2017)** ISSN:1452-3981.

- C.M. Gómora, R.R. Ambriz, **F.F. Curiel**, D. Jaramillo. Heat distribution in welds of a 6061-T6 aluminum alloy obtained by modified indirect electric arc. *Journal of Materials Processing Technology,* Vol. 243, p433-441, (**2017**) ISSN: 0924-0136.

- M.A. Garcia-Rentería, V.H. López-Morelos, J. Gonzalez-Sanchez, R. Garcia-Hernandez, L. Dzib-Pérez, **F.F. Curiel-López.** Effect of electromagnetic interaction during fusión welding of AISI 2205 duplex stainless steel on the corrosión resistance. *Applied Surface Science,* Vol 396, p1187-1200, (**2017**) ISSN: 0169-4332.

- J. Delgado, R.R. Ambriz, R. Cuenca-Àlvarez, N. Alatorre, **F.F. Curiel**. Heat input effect on the microstructural transformation and mechanical properties in GTAW welds of 409L ferritic stainless

steel. *Revista de metalurgia*, Vol. 52 (2), p01-10, (**2016**). ISSN: 1988-4222.

- J. Serrano, R.R. Ambriz, **F.F. Curiel**, D. Jaramillo. Recovering of mechanical properties of a 6061-T6 aluminum welds by heat treatment after welding. *Metallurgical and Materials Transactions A*, Vol.47A, p3412-3422, (**2016**). ISSN: 1073-5623.

- L. Falcón-Franco, I Rosales, S. García-Villareal, **F.F. Curiel,** A. Arizmendi-Morquecho. **Synthesis of magnesium metallic matrix composites and the evaluation of aluminium nitride addition effect.** *Journal of Alloys and Compounds*, Vol. 663, p407-412, (**2016**)**.** ISSN: 0925-8388.

- R.R. Ambriz, D. Jaramillo, C. García and **F.F. Curiel**. Fracture energy evaluation on 7075-T651 aluminum alloy welds determined by-instrumented impact pendulum. *Transactions of Nonferrous Metals Society of China,* Vol. 26, p974-983 (**2016**). ISSN: 1003-6326.

- Roberto Briones Flores, Alberto Ruíz, Carlos Rubio-Gonzalez, Victor H. López, Noemí Ortiz Lara, Rafael Garcia Hernandez and **Francisco F. Curiel López**. **Effect of heat input and accumulated fatigue damage on mechanical properties on dissimilar AL-6XN/316L welded joints.** *Materials Characterization*, Vol. 112, pXX-XX, (**2015**)**.** ISSN: 1044-5803.

Proyectos con financiamiento

- 2025-2026. Efecto del campo magnético externo en la solidificación de hierros blancos alto cromo y aceros alto carbono para refinar su microestructura y mejorar su resistencia al desgaste. Proyecto financiado por la Coordinación de la Investigación Científica (CIC de UMSNH).

Alumnos graduados

1. **Luis Ángel Lázaro Lobato**. (Doctorado-Director) **16 de diciembre de 2024.**

2. **Oliver Iglesias Mancebo del Castillo**. (Director-Licenciatura) **30 de octubre 2024.**
3. **Antonio Enrique Rodríguez**. (Director-Maestría) **19 Julio 2024.**
4. **Héctor Hugo Cisneros Chávez**. **En proceso. Inicio marzo 2023**
5. **Paola Montserrat Flores Morales**. (Director-Maestría) **23 Septiembre 2023**
6. **Maleni García Gómez**. **En proceso. Inicio marzo de 2022**
7. **Julio César García Guerrero**. (Maestría-Director) **11 de Mayo 2023.**
8. **María Guadalupe Raya Rodríguez.** (Co-Director) **31 de Agosto de 2022**
9. **Alan Jadir Romero Orozco**. (Maestría-Director). **12 de Noviembre 2021.**
10. **Manuel Emilio García Esparza**. (Maestría-Director) **8 de Julio de 2021**.
11. **Evelin Janeth Carmona Aguilar**. (Maestría- Co-Director). **23 de Octubre 2020.**
12. **María Lourdes Hernandes Rodriguez**. CVU: 371852. Aplicación de campos magnéticos en uniones soldadas de aleaciones Ni-Cr-Fe. (Doctorado, Co-Director) **6 deMayo de 2019.**
13. **Conrado Castañeda Castellanos**. (Maestría-Director). **27 de Junio de 2018.**
14. **Katia Alejandra Villareal Garza**. Efecto del ciclo térmico de envejecimiento en la vida a la fatiga de la superaleación 718. (Maestría-Director).**6 de agosto 2018.**
15. **Marcos Ariel Mata Rodríguez**. (Licenciatura). **22 de Diciembre de 2016.**
16. **María de los Ángeles Arroyo** Espino. Efectos de la aplicación de campos magnéticos durante la soldadura de una unión disímil AL-6XN/316L. (Maestría, Co-asesor) **Febrero de 2015.**
17. **Francisco Javier Vázquez Treviño**. (Maestría, Director) **11 de Diciembre de 2014.**
18. **Norma Alatorre**. (Doctorado-Evaluador) **8 de Agosto de 2014**