

CVU Dr. Edgar Antonio Rodríguez Negrete

Licenciado por la Universidad de Guanajuato, México. 1995-2000.

Maestro en Ciencias (Biología Experimental) por el Instituto de Investigaciones en Biología Experimental (IIBE) de la Universidad de Guanajuato, México. 2001-2003.

Doctor en Ciencias (Biotecnología de Plantas) por el Centro de investigación y Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV-IPN) Unidad Irapuato, México. 2004-2009.

Posdoctorado por el Instituto de Hortifruticultura Subtropical Mediterranea (IHSM)-Universidad de Málaga, España. 2009-2013

Adscripción Actual (2014-): Instituto Politécnico Nacional. CIIDIR-Unidad Sinaloa. Departamento de Biotecnología Agrícola. Profesor titular B.

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El Dr. Rodríguez Negrete en su productividad científica, cuenta con 32 artículos (JCR), 3 capítulos de libro y 4 artículos de divulgación. Ha participado en 19 proyectos de Investigación y 9 proyectos vinculados con el sector productivo. En formación de recursos humanos ha sido director de dos tesis de Licenciatura nueve tesis de Maestría, y dos tesis de doctorado en curso.

Líneas de Investigación.

Estudio del Silenciamiento Génico mediado por RNA (Gene Silencing) como mecanismo de defensa contra virus fitopatógenos.

Estudio de modificaciones epigenéticas inducidas durante la interacción planta-virus.

Uso de aproximaciones Multi-Omicas para comprender los mecanismos de defensa de plantas ante infecciones virales en el contexto del cambio climático.

Determinación del papel de virus fitopatógenos en el holobiente vegetal.

Desarrollo de vectores virales de silenciamiento génico.

Desarrollo de herramientas para aislamiento y generación de clones infectivos de virus fitopatógenos.

Artículos y capítulos de libros.

1. Arce-Leal Á.P., Rodríguez-Negrete E.A., Guevara-Rivera E.A., Valerio-Valle K.M., Leyva-López N.E., Méndez-Lozano J. Viral diseases in cucurbit crops related to mixed infection of two whitefly-transmitted viruses in Sonora, Mexico. (2026) Canadian Journal of Plant Pathology, 48 (3), pp. 288 – 297. DOI: 10.1080/07060661.2025.2598407
2. Valdez-López J.L., Palafox-Leal N.L., Santos-Lopez G., Fantino E.I., Mohammadi S., Levesque R.C., Méndez-Lozano J., Mora-Zamudio C.I., Rodríguez-Negrete E.A., Santos-Cervantes M.E., Leyva-López N.E. Pectobacterium sinaloense sp. nov., a novel phytopathogenic species isolated from potato plants in Mexico (2026) International Journal of Systematic and Evolutionary Microbiology, 76 (2). DOI: 10.1099/ijsem.0.007076
3. Castillo-Batista J.C., Quiroz-Figueroa F.R., Rodríguez-Negrete E.A., Diarte-Plata G., Felix-Gastelum R., Leyva-López N.E., Santos-Cervantes M.E. Identification of Fusarium Species Associated With Dry Rot of Potato Tubers in Sinaloa, Mexico. (2025) Journal of Phytopathology, 173 (3). DOI: 10.1111/jph.70102
4. Cervantes-Santos J.A., Villar-Luna H., Bojórquez-Orozco A.M., Díaz-Navarro J.E., Arce-Leal Á.P., Santos-Cervantes M.E., Claros M.G., Méndez-Lozano J., Rodríguez-Negrete E.A., Leyva-López N.E. Huanglongbing as a Persistent Threat to Citriculture in Latin America. (2025) Biology, 14 (4). DOI: 10.3390/biology14040335
5. Valdez-López J.L., Pérez-López E., Mora-Zamudio C.I., Méndez-Lozano J., Rodríguez-Negrete E.A., Santos-Cervantes M.E., Leyva-López N.E. First Report of Pectobacterium versatile Causing Aerial Stem Rot on Potato Crops in Mexico. (2025) Plant Disease, 109 (7), pp. 1581. DOI: 10.1094/PDIS-02-25-0423-PDN
6. Santos-Cervantes, M.E., Palafox-Leal, N.L., Castillo-Batista, J.C., González-Castillo, A., Gómez-Gil, B., Méndez-Lozano, J., Rodríguez-Negrete, E.A., Cervantes Cárdenas, L.A., Leyva-López, N.E. First Report of Pectobacterium polaris Causing Aerial Stem Rot of Potato in Mexico (2024) Plant Disease, 108 (1), p. 202. DOI: 10.1094/PDIS-07-23-1394-PDN
7. Guevara-Rivera, E.A., Rodríguez-Negrete, E.A., Lozano-Durán, R., Bejarano, E.R., Torres-Calderón, A.M., Arce-Leal, Á.P., Leyva-López, N.E., Méndez-Lozano, J. From Metagenomics to Ecogenomics: NGS-Based Approaches

for Discovery of New Circular DNA Single-Stranded Viral Species(2024) *Methods in Molecular Biology*, 2732, pp. 103-117. DOI: 10.1007/978-1-0716-3515-5_7

8. Rodríguez-Negrete, E.A., Grande-Pérez, A. Quantification of Virion-Sense and Complementary-Sense DNA Strands of Circular Single-Stranded DNA Viruses(2024) *Methods in Molecular Biology*, 2724, pp. 93-109. DOI: 10.1007/978-1-0716-3485-1_8

9. Palafox-Leal, N.L., Castillo Batista, J.C., Santos-Cervantes, M.E., Méndez-Lozano, J., Rodríguez-Negrete, E.A., Cervantes-Cárdenas, L.A., Leyva-López, N.E. *Pectobacterium punjabense* causing soft rot and blackleg of potato in Sinaloa, Mexico. (2024) *European Journal of Plant Pathology*, 168 (1), pp. 29-37. DOI: 10.1007/s10658-023-02725-9

10. Rodríguez-Negrete, E.A., Guevara-Rivera, E.A., Arce-Leal, Á.P., Leyva-López, N.E., Méndez-Lozano, J. A novel tomato spotted wilt virus isolate encoding a noncanonical NSm C118F substitution associated with Sw-5 tomato gene resistance breaking.(2023) *Molecular Plant Pathology*, 24 (10), pp. 1300-1311. DOI: 10.1111/mpp.13371

11. Bojórquez-Orozco, A.M., Arce-Leal, Á.P., Montes, R.A.C., Santos-Cervantes, M.E., Cruz-Mendivil, A., Méndez-Lozano, J., Castillo, A.G., Rodríguez-Negrete, E.A., Leyva-López, N.E. Differential Expression of miRNAs Involved in Response to *Candidatus Liberibacter asiaticus* Infection in Mexican Lime at Early and Late Stages of Huanglongbing Disease.(2023) *Plants*, 12 (5), art. no. 1039. DOI: 10.3390/plants12051039

12. Guevara-Rivera, E.A., Rodríguez-Negrete, E.A., Aréchiga-Carvajal, E.T., Leyva-López, N.E., Méndez-Lozano, J. From Metagenomics to Discovery of New Viral Species: *Galium Leaf Distortion Virus*, a Monopartite Begomovirus Endemic in Mexico.(2022) *Frontiers in Microbiology*, 13, art. no. 843035. DOI: 10.3389/fmicb.2022.843035

13. López-Márquez, D., Del-Espino, A., López-Pagán, N., Rodríguez-Negrete, E.A., Rubio-Somoza, I., Ruiz-Albert, J., Bejarano, E.R., Beuzón, C.R. MiR825-5p targets the TIR-NBS-LRR gene MIST1 and down-regulates basal immunity against *Pseudomonas syringae* in *Arabidopsis*.(2021) *Journal of Experimental Botany*, 72 (20), pp. 7316-7334. DOI: 10.1093/jxb/erab354

14. Rodríguez-Negrete, E.A., Jordan-Ramírez, R., Leyva-López, N.E., Méndez-Lozano, J. Cucurbit leaf crumple virus associated to watermelon disease in Campeche State, Mexico.(2021) *Plant Disease*, 105 (4), p. 1235. DOI: 10.1094/PDIS-12-20-2551-PDN

15. Luna, A.P., Romero-Rodríguez, B., Rosas-Díaz, T., Cerero, L., Rodríguez-Negrete, E.A., Castillo, A.G., Bejarano, E.R. Characterization of Curtovirus V2 Protein, a Functional Homolog of Begomovirus V2. (2020) *Frontiers in Plant Science*,

DOI: 10.3389/fpls.2020.00835

16. Arce-Leal, Á.P., Bautista, R., Rodríguez-Negrete, E.A., Manzanilla-Ramírez, M.Á., Velázquez-Monreal, J.J., Méndez-Lozano, J., Bejarano, E.R., Castillo, A.G., Claros, M.G., Leyva-López, N.E. De novo assembly and functional annotation of *Citrus aurantifolia* transcriptome from *Candidatus Liberibacter asiaticus* infected and non-infected trees. (2020) Data in Brief, 29, art. no. 105198. DOI: 10.1016/j.dib.2020.105198

17. Arce-Leal, A.P., Bautista, R., Rodríguez-Negrete, E.A., Manzanilla-Ramírez, M.A., Velázquez-Monreal, J.J., Santos-Cervantes, M.E., Méndez-Lozano, J., Beuzón, C.R., Bejarano, E.R., Castillo, A.G., Gonzalo Claros, M., Leyva-López, N.E. Gene expression profile of mexican lime (*Citrus aurantifolia*) trees in response to huanglongbing disease caused by *Candidatus liberibacter asiaticus*. (2020) Microorganisms, 8 (4), art. no. 528. DOI: 10.3390/microorganisms8040528

18. Rodriguez-Gandarilla, M.G., Rodriguez-Negrete, E.A., Rivera-Bustamante, R.F. Superinfection by PHYVV alters the recovery process in PepGMV-infected pepper plants. (2020) Viruses, 12 (3), art. no. 286. DOI: 10.3390/v12030286

19. Morales-Aguilar, J.J., Rodríguez-Negrete, E.A., Camacho-Beltrán, E., López-Luque, C.A., Leyva-López, N.E., Jiménez-Díaz, F., Voloudakis, A., Santos-Cervantes, M.E., Méndez-Lozano, J. Identification of Tomato yellow leaf curl virus, Pepper huasteco yellow vein virus and Pepper golden mosaic virus associated with pepper diseases in northern Mexico. (2019) Canadian Journal of Plant Pathology, 41 (4), pp. 544-550. DOI: 10.1080/07060661.2019.1591509

20. Rodríguez-Negrete, E.A., Morales-Aguilar, J.J., Domínguez-Duran, G., Torres-Devora, G., Camacho-Beltrán, E., Leyva-López, N.E., Voloudakis, A.E., Bejarano, E.R., Méndez-Lozano, J. High-throughput sequencing reveals differential begomovirus species diversity in non-cultivated plants in northern-pacific Mexico (2019) Viruses, 11 (7), art. no. 594. DOI: 10.3390/v11070594

21. Camacho-Beltrán, E., Pérez-Villarreal, A., Leyva-López, N.E., Rodríguez-Negrete, E.A., Cenicerros-Ojeda, E.A., Méndez-Lozano, J. Occurrence of tomato brown rugose fruit virus infecting tomato crops in Mexico. (2019) Plant Disease, 103 (6). DOI: 10.1094/PDIS-11-18-1974-PDN

22. Arce-Leal, Á.P., Leyva-López, N.E., Santos-Cervantes, M.E., Rodríguez-Negrete, E.A., Méndez-Lozano, J., Manzanilla-Ramírez, M.Á., Perea-Flores, M.J. Changes in carbohydrate metabolism associated to *Candidatus Liberibacter asiaticus* infection in Mexican lime (*Citrus aurantifolia*) [Cambios en el metabolismo de carbohidratos asociados a la infección por *Candidatus Liberibacter asiaticus* en limón Mexicano (*Citrus aurantifolia*)]. (2019) Agrociencia, 53 (4), pp. 593-604.

23. Mendoza-Figueroa, J.S., Badillo-Ramírez, I., Kvarnheden, A., Rosas-Ramírez, D.G., Rodríguez-Negrete, E.A., Méndez-Lozano, J., Saniger, J.M.,

Soriano-García, M. The Peptide AmPep1 Derived from Amaranth Recognizes the Replication Hairpin of TYLCV Disturbing Its Replication Process in Host Plants. (2019) *Journal of Agricultural and Food Chemistry*, 67 (33), pp. 9241-9253.. DOI: 10.1021/acs.jafc.9b02526

24. Moreno-Félix, M.L., Rodríguez-Negrete, E.A., Meléndrez-Bojórquez, N., Camacho-Beltrán, E., Leyva-López, N.E., Méndez-Lozano, J. A new isolate of Pepper huasteco yellow vein virus (PHYVV) breaks geminivirus tolerance in tomato (*Solanum lycopersicum*) commercial lines. (2018) *Acta Horticulturae*, 1207, pp. 35- DOI: 10.17660/ActaHortic.2018.1207.4

25. Mendoza-Figueroa, J.S., Kvarnheden, A., Méndez-Lozano, J., Rodríguez-Negrete, E.-A., Arreguín-Espinosa de los Monteros, R., Soriano-García, M. A peptide derived from enzymatic digestion of globulins from amaranth shows strong affinity binding to the replication origin of Tomato yellow leaf curl virus reducing viral replication in *Nicotiana benthamiana*. (2018) *Pesticide Biochemistry and Physiology*, 145, pp. 56-65. DOI: 10.1016/j.pestbp.2018.01.005

26. Domínguez-Durán, G., Rodríguez-Negrete, E.A., Morales-Aguilar, J.J., Camacho-Beltrán, E., Romero-Romero, J.L., Rivera-Acosta, M.A., Leyva-López, N.E., Arroyo-Becerra, A., Méndez-Lozano, J. Molecular and biological characterization of Watermelon chlorotic stunt virus (WmCSV): An Eastern Hemisphere begomovirus introduced in the Western Hemisphere. (2018) *Crop Protection*, 103, pp. 51-55. DOI: 10.1016/j.cropro.2017.09.006

27. Luna, A.P., Rodríguez-Negrete, E.A., Morilla, G., Wang, L., Lozano-Durán, R., Castillo, A.G., Bejarano, E.R. V2 from a curtovirus is a suppressor of post-transcriptional gene silencing. (2017) *Journal of General Virology*, 98 (10), art. no. 000933, pp. 2607-2614. DOI: 10.1099/jgv.0.000933

28. Arratia-Castro, A.A., Santos-Cervantes, M.E., Arce-Leal, Á.P., Espinoza-Mancillas, M.G., Rodríguez Negrete, E.A., Méndez-Lozano, J., Arocha-Rosete, Y., Leyva-López, N.E. Detection and quantification of 'Candidatus Phytoplasma asteris' and 'Candidatus Liberibacter asiaticus' at early and late stages of Huanglongbing disease development. (2016) *Canadian Journal of Plant Pathology*, 38 (4), pp. 411-421. DOI: 10.1080/07060661.2016.1243586

29. Sánchez-Campos, S., Rodríguez-Negrete, E.A., Cruzado, L., Grande-Pérez, A., Bejarano, E.R., Navas-Castillo, J., Moriones, E. Tomato yellow leaf curl virus: No evidence for replication in the insect vector *Bemisia tabaci*. (2016) *Scientific Reports*, 6, art. no. 30942. DOI: 10.1038/srep30942

30. Cenicerós-Ojeda, E.A., Rodríguez-Negrete, E.A., Rivera-Bustamante, R.F. Two populations of viral minichromosomes are present in a geminivirus-infected plant showing symptom remission (recovery). (2016) *Journal of Virology*, 90 (8), pp. 3828-3838. DOI: 10.1128/JVI.02385-15

31. Melendrez-Bojorquez, N., Magallanes-Tapia, M.A., Armenta-Anaya, C., Camacho-Beltrán, E., Rodríguez-Negrete, E.A., Leyva-López, N.E., Méndez-Lozano, J. Pepper huasteco yellow vein virus associated to sweet pepper disease in Sinaloa, Mexico. (2016) *Plant Disease*, 100 (11). DOI: 10.1094/PDIS-02-16-0226-
32. Cañizares, M.C., Rosas-Díaz, T., Rodríguez-Negrete, E., Hogenhout, S.A., Bedford, I.D., Bejarano, E.R., Navas-Castillo, J., Moriones, E. *Arabidopsis thaliana*, an experimental host for tomato yellow leaf curl disease-associated begomoviruses by agroinoculation and whitefly transmission. (2015) *Plant Pathology*, 64 (2), pp. 265-271. DOI: 10.1111/ppa.12270
33. Macías-Rodríguez, N.A., Camacho-Beltrán, E., Rodríguez-Negrete, E., Leyva-López, N.E., Méndez-Lozano, J. *Penaeus stylirostris* Penstyldensovirus. (2015) *Molecular Detection of Animal Viral Pathogens*, pp. 705-712.
34. Trejo-Saavedra, D.L., Rodríguez-Negrete, E.A., Vielle-Calzada, J.P., Rivera-Bustamante, R.F. Gene traps as a tool for identification of plant genes involved in viral infection response [Trampas génicas como herramienta para identificar genes en plantas que responden a la infección por virus]. (2015) *Agrociencia*, 49 (6), pp. 593-612.
35. Rodríguez-Negrete, E., Bejarano, E.R., Castillo, A.G. Using the yeast two-hybrid system to identify protein-protein interactions. (2014) *Methods in Molecular Biology*, 1072, pp. 241-258. DOI: 10.1007/978-1-62703-631-3_18
36. Rodríguez-Negrete, E.A., Sánchez-Campos, S., Cañizares, M.C., Navas-Castillo, J., Moriones, E., Bejarano, E.R., Grande-Pérez, A. A sensitive method for the quantification of virion-sense and complementary-sense DNA strands of circular single-stranded DNA viruses. (2014) *Scientific Reports*, 4, art. no. 6438. DOI: 10.1038/srep06438
37. Rodríguez-Negrete, E., Lozano-Durán, R., Piedra-Aguilera, A., Cruzado, L., Bejarano, E.R., Castillo, A.G. Geminivirus Rep protein interferes with the plant DNA methylation machinery and suppresses transcriptional gene silencing. (2013) *New Phytologist*, 199 (2), pp. 464-475. DOI: 10.1111/nph.12286
38. Caracuel, Z., Lozano-Durán, R., Huguet, S., Arroyo-Mateos, M., Rodríguez-Negrete, E.A., Bejarano, E.R. C2 from Beet curly top virus promotes a cell environment suitable for efficient replication of geminiviruses, providing a novel mechanism of viral synergism. (2012) *New Phytologist*, 194 (3), pp. 846-858. DOI: 10.1111/j.1469-8137.2012.04080.x
39. Rodríguez-Negrete, E.A., Carrillo-Tripp, J., Rivera-Bustamante, R.F. RNA silencing against geminivirus: Complementary action of posttranscriptional gene silencing and transcriptional gene silencing in host recovery (2009) *Journal of Virology*, 83 (3), pp. 1332-1340. DOI: 10.1128/JVI.01474-08