Dr. Rosendo Romero Andrade

r.romero11@info.uas.edu.mx
https://www.researchgate.net/profile/Rosendo-Romero-Andrade
https://orcid.org/0000-0003-3786-0576
+526677955160

Employment History

2019 – · · · · **Full-time Professor and researcher,** Faculty of Earth and Space Sciences, Autonomous University of Sinaloa.

2023 – · · · · **Coordinator Postgraduate Programs** in the Faculty of Earth and Space Sciences, Autonomous University of Sinaloa, Mexico.

Education

2018 **Ph.D., Information Sciences**, Autonomous University of Sinaloa.

2014 **M.Sc. Information Sciences**, Autonomous University of Sinaloa.

2011 **B.Sc. in Geodetic Engineering**, Autonomous University of Sinaloa.

Research Publications

Journal Articles

1. D. Hernández Andrade, M. C. de Lacy Pérez de los Cobos, **Romero Andrade, Rosendo**, and M. E. Trejo Soto, "Statistical comparison of geodetic baseline for topographic–geodetic purposes using a low-cost gnss receiver and electromagnetic distance measurement," *Journal of Surveying Engineering*, vol. 150, no. 1, p. 05 023 005, 2024.

2. R. M. Llanes-Hernández, **Romero-Andrade, Rosendo**, T. D. Guzmán-Galindo, L. G. Santiago-Sánchez, and R. G. Serrano-Agila, "Control de calidad de las observaciones gps de la red geodésica nacional activa en méxico del periodo 2020-2023," *European Scientific Journal, ESJ*, vol. 20, no. 21, p. 1, Jul. 2024. DOI: 10.19044/esj.2024.v20n21p1.

3. K. Nayak, C. L. Urias, **Romero Andrade, Rosendo**, G. Sharma, and M. E. T. Soto, "Analysis of seismo-ionospheric irregularities using the available prns vtec from the closest epicentral cgps stations for large earthquakes," *Environmental Sciences Proceedings*, vol. 27, no. 1, p. 24, 2024.

4. L. G. Santiago-Sánchez, **Romero-Andrade, Rosendo**, M. E. Trejo-Soto, *et al.*, "Análisis comparativo del posicionamiento preciso utilizando el receptor de bajo costo gnss zed-f9p en conjunto con la antena beibt300 y diferentes modelos de antena de orden geodésico," *European Scientific Journal, ESJ*, vol. 20, no. 6, p. 36, Feb. 2024. DOI: 10.19044/esj.2024.v20n6p36.

5. G. Sharma, K. Nayak, **Romero-Andrade, Rosendo**, M. M. Aslam, K. Sarma, and S. Aggarwal, "Low ionosphere density above the earthquake epicentre region of mw 7.2, el mayor–cucapah earthquake evident from dense cors data," *Journal of the Indian Society of Remote Sensing*, pp. 1–13, 2024.

6. N. Bojorquez-Pacheco, **Romero-Andrade, Rosendo**, M. E. Trejo-Soto, *et al.*, "Performance evaluation of single and double-frequency low-cost gnss receivers in static relative mode," *Geodetski Vestnik*, vol. 67, no. 2, pp. 235–248, 2023.

7. K. Nayak, C. López-Urıas, **Romero-Andrade, Rosendo**, G. Sharma, G. M. Guzmán-Acevedo, and M. E. Trejo-Soto, "Ionospheric total electron content (tec) anomalies as earthquake precursors: Unveiling the geophysical connection leading to the 2023 moroccan 6.8 mw earthquake," *Geosciences*, vol. 13, no. 11, p. 319, 2023.

8 K. Nayak, **Romero-Andrade, Rosendo**, G. Sharma, *et al.*, "A combined approach using b-value and ionospheric gps-tec for large earthquake precursor detection: A case study for the colima earthquake of 7.7 mw, mexico," *Acta Geodaetica et Geophysica*, pp. 1–24, 2023.

9 **Romero-Andrade, Rosendo**, M. E. Trejo-Soto, K. Nayak, D. Hernández-Andrade, and N. Bojorquez-Pacheco, "Lineament analysis as a seismic precursor: The el mayor cucapah earthquake of april 4, 2010 (mw7. 2), baja california, mexico," *Geodesy and Geodynamics*, vol. 14, no. 2, pp. 121–129, 2023.

10 G. Sharma, M. S. Singh, S. P. Aggarwal, and **Romero-Andrade, Rosendo**, "Integrated observations on crustal strain-ionosphere total electron content anomalies before the earthquake," *Acta Geophysica*, pp. 1–13, 2023.

11 N. Bojorquez-Pacheco, **Romero-Andrade, Rosendo**, M. E. Trejo-Soto, D. Hernández-Andrade, and M. Trejo-Echeagaray, *European Scientific Journal, ESJ*, no. 24, p. 68, Jul. 2022.

12 K. Chwedczuk, D. Cienkosz, M. Apollo, *et al.*, "Challenges related to the determination of altitudes of mountain peaks presented on cartographic sources," *Geodetski Vestnik*, vol. 66, no. 1, pp. 49–59, 2022.

13 D. Hernández-Andrade, **Romero-Andrade, Rosendo**, G. Sharma, M. E. Trejo-Soto, and J. L. Cabanillas-Zavala, "Quality assessment of continuous operating reference stations (cors)-gps stations in mexico," *Geodesy and Geodynamics*, vol. 13, no. 3, pp. 275–287, 2022.

14 G. Sharma, **Romero-Andrade, Rosendo**, A. K. Taloor, G. Ganeshan, K. K. Sarma, and S. P. Aggarwal, "2-d ionosphere tec anomaly before january 28, 2020, cuba earthquake observed from a network of gps observations data," *Arabian Journal of Geosciences*, vol. 15, no. 15, p. 1348, 2022.

15 J. C. Fernández-Garcıa, L. E. Acosta-González, E. L. C. Hernández, and **Romero-Andrade, Rosendo**, "Aplicación de la tecnologıa vant para el cálculo de volúmenes de movimientos de tierra: E311," *Revista Cubana de Ingenierıa*, vol. 12, no. 4, 2021.

16 **Romero-Andrade, Rosendo**, M. E. Trejo-Soto, J. R. Vázquez-Ontiveros, D. Hernández-Andrade, and J. L. Cabanillas-Zavala, "Sampling rate impact on precise point positioning with a low-cost gnss receiver," *Applied Sciences*, vol. 11, no. 16, p. 7669, 2021.

17 **Romero-Andrade, Rosendo**, M. E. Trejo-Soto, A. Vega-Ayala, D. Hernández-Andrade, J. R. Vázquez-Ontiveros, and G. Sharma, "Positioning evaluation of single and dual-frequency low-cost gnss receivers signals using ppp and static relative methods in urban areas," *Applied Sciences*, vol. 11, no. 22, p. 10 642, 2021.

18 **Romero-Andrade, Rosendo**, M. E. Trejo-Soto, A. A. Arellano-Baeza, and J. L. Cabanillas-Zavala, "Monitoreo del movimiento de la corteza terrestre asociado a sismos mediante observaciones gps en el golfo de california," *Revista Ingenierıas Universidad de Medellın*, vol. 20, no. 39, pp. 97–114, 2021.

19 J. d. J. U. Adrian, W. P. Rocha, **Romero-Andrade, Rosendo**, G. C. Barraza, J. C. B. González, and R. R. Noa, "Detection of desirable areas for urban growth through gis and owa: The case of culiacan and navolato," *CIENCIA ergo-sum*, vol. 27, no. 2, pp. 87–104, 2020.

20 J. L. Cabanillas-Zavala, **Romero-Andrade, Rosendo**, M. V. Mackern Oberti, M. F. Camisay, M. L. Mateo, and J. M. Sandoval-Hernández, "Establecimiento y análisis de la nueva red geodésica regjal para el estudio geodinámco del bloqueo de jalisco, méxico.," 2020.

21 D. Hernández-Andrade, **Romero-Andrade, Rosendo**, J. Cabanillas-Zavala, M. Ávila-Cruz, M. Trejo-Soto, and A. Vega-Ayala, "Análisis de calidad de las observaciones gps en estaciones de operación continua de libre acceso en méxico," *European Scientific Journal, ESJ*, vol. 16, p. 32, 2020.

22 A. Z. Maciel, **Romero-Andrade, Rosendo**, C. R. M. Valenzuela, and F. Pivot, "Evaluación de receptores gps de bajo costo de alta sensibilidad para trabajos geodésicos. caso de estudio: Lınea base geodésica," *CIENCIA ergo-sum*, vol. 27, no. 1, p. 6, 2020.

23 **Romero-Andrade, Rosendo**, J. L. Cabanillas-Zavala, D. Hernández-Andrade, M. E. Trejo-Soto, and S. A. Monjardin-Armenta, "Análisis comparativo del posicionamiento gnss utilizando receptor de bajo costo u-blox de doble frecuencia para aplicaciones topógrafo-geodésicas," *European Scientific Journal, ESJ*, vol. 16, pp. 289–312, 2020.

24 **Romero-Andrade, Rosendo**, A. Zamora-Maciel, J. d. J. Uriarte-Adrián, F. Pivot, and M. E. Trejo-Soto, "Comparative analysis of precise point positioning processing technique with gps low-cost in different technologies with academic software," *Measurement*, vol. 136, pp. 337–344, 2019.

25 **Romero-Andrade, Rosendo**, A. Z. Gambino, J. C. B. González, J. d. J. U. Adrián, M. E. T. Soto, and G. E. V. Becerra, "Extracción de lineamientos originados por estrés sismico a través de imágenes de alta resolución," *UGCiencia*, vol. 23, pp. 46–54, 2017.

26 S. A. M. Armenta, C. E. P. Angulo, W. P. Rocha, G. C. Barraza, **Romero-Andrade, Rosendo**, and J. C. B. Gonzalez, "Determination and analysis of hot spot areas of deforestation using remote sensing and geographic information system techniques. case study: State sinaloa, méxico," *Open Journal of Forestry*, vol. 6, no. 4, pp. 295–304, 2016.

Conference Proceedings

1 K. Nayak, C. L. Urias, **Romero-Andrade, Rosendo**, G. Sharma, and M. E. T. Soto, "Analysis of seismo-ionospheric irregularities using the availa-2 ble prns vtec from the closest epicentral cgps stations for 3 large earthquakes 4," in *Presented at the 6th International Electronic Conference on Atmospheric Sciences*, 2023, p. 9.

Thesis supervised

1 N. Bojorquez-Pacheco, "Coastal sea level measurements using low-cost gnss receivers and conventional tide gauges.," M.S. thesis, Faculty of Earth and Space Sciences, Autonomous University of Sinaloa, Mexico, 2024.

2 L. G. Santiago Sánchez, "Pilot test for the establishment of a continuous monitoring station with a low-cost gnss receiver and antenna," BA thesis, Faculty of Earth and Space Sciences, Autonomous University of Sinaloa, Mexico, 2024.

3 D. Hernandez-Andrade, "Geodinamyc characterization of the pacific-northamerican plate's in the northwest of mexico through gps observations," M.S. thesis, Faculty of Earth and Space Sciences, Autonomous University of Sinaloa, Mexico, 2023.

4 M. Trejo Echeagaray, "Analysis of the use of rectangular topocentric local coordinates in satellite geodetic monitoring of large engineering structures. object of study: The sanalona dam," BA thesis, Faculty of Earth and Space Sciences, Autonomous University of Sinaloa, Mexico, 2022.

5 D. Hernández-Andrade, "Quality analysis of gps observations and their impact on accurate positioning. case study: Free access gnss geodetic networks in mexico.," BA thesis, Meritorious Autonomous University of Puebla, Mexico, 2021.

6 K. Nayak, "Study of the pre-earthquake signatures in the ionosphere using ground based geophysical data.," M.S. thesis, North Eastern Space Application Centre (NESAC), Department of Space, Government of India, 2021.

7 A. Vega-Ayala, "Comparative analysis of the precise point positioning (ppp) and differential gnss (dgnss) techniques for urban areas and continuous operation reference stations (cors) of the multi-gnss experiment (mgex) network.," BA thesis, Faculty of Earth and Space Sciences, Autonomous University of Sinaloa, Mexico, 2020.

8 A. I. Vidal Vega, "Characterization and analysis of a vertical geodetic reference system.," M.S. thesis, Faculty of Earth and Space Sciences, Autonomous University of Sinaloa, Mexico, 2020.

9 J. L. Cabanillas Zavala, "Establishment and analysis of the new regjal geodetic network for geodynamic purposes for the study of the jalisco block, mexico.," M.S. thesis, University Center of the Coast, Center for Seismology and Volcanology of the West, Mexico, 2019.

Skills

Languages	Strong reading, writing, and speaking in English. Basic proficiency of Japanese.
Coding	Shell-C, C, Python, MATLAB, LaTeX, …
Misc.	Academic research, teaching, training, consultation, LaTeX typesetting and publishing.

Miscellaneous Experience

Awards and Achievements

2022	**SNI**, National System of Researchers, level 1.
	PRODEP, Certified by the Teacher Professional Development Program certification.
2020 and 2022	**SSIT**, Honorary Researcher. Member of the Sinaloa System of Researchers and Technologists.
	SNI, National System of Researchers, Candidate.

Teaching class

Bachelor	Geodesia Sísmica, Programación orientada la geodesia, Programación Básica, Algoritmos para el tratamiento digital de Imágenes, Seminario de Tesis, Sistemas de Navegación Global por Satélite, Programación orientada a objetos, Geodesia y GNSS, Prácticas de Geodesia Aplicada I.
Posgrade	Procesamiento avanzado de datos GNSS, Seminario de Tesis, Trabajo de Tesis, Geodesia Espacial, Tópicos de Geodesia Superir I, Tópicos de Geodesia Superior II.

Certification

2020	**Certificate of completion** GPS Data Processing & Analysis with GAMIT/GLOBK/TRACK, Online by UNAVCO, NASA, NFS, MIT.
2017	**Certificate of completion** GPS Data Processing & Analysis with GAMIT/GLOBK/TRACK, Online by UNAVCO, NASA, NFS, MIT.
2015	**Certificate of completion** GPS Data Processing & Analysis with GAMIT/GLOBK/TRACK, Online by UNAVCO, NASA, NFS, MIT.

Reviewer

2023	**Paper reviewer**. Reviewed 63 papers for the following MDPI journal: Sensors, Remote Sensing and Aerospace. Reviewer of Elsevier papers.
2022	**Project evaluator**. "Evaluation of the proposals in the convocatory of 2022 projects (innovation, papers, and research)". Particular Technique University of Loja, Ecuador.
	Project evaluator "Evaluation of internal projects PROFAPI 2022". The Autonomous University of Sinaloa.
2020	**CONACyT**, Academic peer in the evaluation of postgraduate programs within the framework of the call for new entrants of the National Quality Postgraduate Program (PNPC).

Miscellaneous Experience (continued)

Conferences, seminars and workshops

2015
- **Conference** with the topic "Determination of horizontal and vertical deformations of the Sanalona Dam", within the framework of International Earth Day, by the Faculty of Earth and Space Sciences, of the Autonomous University of Sinaloa.

2017
- **Speaker** of the seminar with the theme entitled "Analysis of the deformations of the earth's crust and extraction of guidelines generated by seismic efforts for the study of seismic zones through satellite images and GPS", within the framework of the XXIV national week of science and technology.

2018
- **Conference** "Seismic studies using geodetic techniques", during the framework of the XXV National Week of Science and Technology.
- **Instructor** of the "Information Processing" module, within the framework of the first days of the Geoid School with the slogan "Precise Determination of the Geoid", a national scientific academic event held in the city of Culiacán, Sinaloa.
- **Conference** with the topic "GNSS: opportunities and new technologies". World Space Week 2020 FACITE-ASA.
- **Conference** with the topic "GNSS: opportunities and new technologies". National Week of Science and Technology.

2022
- **Conference** with the theme "Multiparametric approach for earthquake precursor detection using ground-based ground based geophysical data: A case study of El-Mayor Cucapah Earthquake". XLIII semana cultural de geología "MC. Alejandra Montijo González", Sonora, Mexico.
- **Conference** with the theme "Ionospheric TEC anomaly as an earthquake precursor: a case study of 2010 Mw El Mayor Cucapah earthquake". RAUGM in Puerto Vallarta, Jalisco Mexico.
- **Poster**, with the theme "Evaluación del posicionamiento preciso a través de los receptores GPS LEA-6T, NEO- M8T y ZED-F9P de bajo costo". RAUGM 2022, in Puerto Vallarta, Jalisco, Mexico.
- **Poster**, with the theme "Análisis estadístico-comparativo de línea base geodésica a través de receptores GNSS de bajo costo y mediciones electrónicas de distancia con fines topógrafo-geodésicos". RAUGM 2022, in Puerto Vallarta, Jalisco, Mexico.
- **Workshop**, with the topic "Conceptos de alta precision en GNSS y procesamiento de las observaciones GNSS mediante software científico: PRIDE PPP-AR, RTKlib y CSRS-PPP" in the Jornada Universitaria del conocimiento UAS 2022.

2023
- **Conference** with the topic "GNSS: oportunidades y nuevas tecnologías – Posgrado en Ciencias de la Información", Faculty of Engineering, Meritorious Autonomous University of Puebla.
- **Workshop** with the topic "Posicionamiento preciso mediante receptors GNSS de bajo costo y procesamiento con software de libre acceso", Faculty of Engineering, Meritorious Autonomous University of Puebla.
- **Workshop** with the topic "Posicionamiento preciso mediante receptors GNSS de bajo costo y procesamiento con software de libre acceso",Particular Technique University of Loja, Ecuador.

Academic stays

2024
- Departamento de Geociencias, Universidad Técnica Particular de Loja, Ecuador.

2020, 2023
- Instituto de Ingeniería de la Universidad Nacional Autónoma de México.

2017
- Departamento de Ingeniería Metalúrgica, Universidad de Santiago de Chile, Chile.

Miscellaneous Experience (continued)

- UNAVCO INC: Boulder, Colorado, Department of Geodesy, United States.
- 2016 Departamento de Microgeodesia, Universidad de Jaén, Andalucía, España.
- 2015 UNAVCO INC: Boulder, Colorado, Department of Geodesy, United States.

References

Available on Request