

References for Sargassum research in Mexico by strategic lines

1. Monitoring, modeling and early warning

- Aguilera Méndez, J. M., Juárez-Toledo, C., Tapia-Fabela, J. L., Martínez-Carrillo, I. & Hernández-Grajales, R. V. (2023). Modelación numérica de la trayectoria del sargazo pelágico utilizando ecuaciones Brownianas con aplicación a las aguas de la Península de Yucatán, México. *Ingeniería del Agua*, 27(1), 45-58. <https://doi.org/10.4995/la.2023.18700>
- Arellano-Verdejo, J. & Lazcano-Hernandez, H.E. (2020). Crowdsourcing for Sargassum monitoring along the beaches in Quintana Roo. *Communications in Computer and Information Science*, 1276, 49 - 62.
- Arellano-Verdejo, J. & Lazcano-Hernández, H.E. (2021). Collective view: Mapping Sargassum distribution along beaches. *PeerJ Computer Science*, 7, 528.
- Arellano-Verdejo, J., Lazcano-Hernandez, H.E. & Cabanillas-Terán, N. (2019). ERISNet: Deep neural network for Sargassum detection along the coastline of the Mexican Caribbean. *PeerJ*, 9, 6842.
- Arellano-Verdejo, J., Santos-Romero, M., & Lazcano-Hernandez, H.E. (2022). Use of semantic segmentation for mapping *Sargassum* on beaches. *PeerJ*, 10, e13537 <https://doi.org/10.7717/peerj.13537>
- Benavides Lahnstein, A.I., Paredes Chi, A., Ríos Vázquez, A., Galindo-De Santiago, M. C., Khatun, K., Vázquez Delfín, E., Robinson, L., Brodie, J. y Wardlaw, J. (2024). «No todo es sargazo»: Aprendizajes en un proyecto de ciencia ciudadana marino-costera. *Enseñanza de las Ciencias*, 42(1), 1-19 <https://doi.org/10.5565/rev/ensciencias.5940>
- De la Barreda-Bautista, B., Metcalfe, S.E., Smith, G., Sjögersten, S., Boyd, D.S., Cerdeira-Estrada, S., López-Ramírez, P., Magaldi, A., Ressl, R., Perera-Valderrama, S., Caballero-Aragón, H., Siordia, O.S., Couldridge, J., Gray, P., Silva, R., van Tussenbroek, B.I., Escalante-Mancera, E., & Foody, G. (2023). Monitoring holopelagic *Sargassum* spp. along the Mexican Caribbean coast: understanding and addressing user requirements for satellite remote sensing. *Frontier in Marine Science*, 10, 1166000 <https://doi.org/10.3389/fmars.2023.1166000>
- Cuevas, E., Uribe-Martínez, A. & Liceaga-Correa, M. de los Á. (2018). A satellite remote-sensing multi-index approach to discriminate pelagic Sargassum in the waters of the Yucatan Peninsula, Mexico. *European Journal of Phycology*, 39(11), 3608 - 3627.
- Chandler, C.J., Ávila-Mosqueda, S.V., Salas-Acosta, E.R., Magaña-Gallegos, E., Escalante Mancera, E., Gómez Realí, M.A., de la Barreda-Bautista, B., Boyd, D.S., Metcalfe, S.E., Sjogersten, S., van Tussenbroek, B., Silva, R. & Foody, G.M. (2023). Spectral characteristics of beached *Sargassum* in response to drying and decay over time. *Remote Sensing*, 15(17), 4336 <https://doi.org/10.3390/rs15174336>
- Duffy, J.E., Benedetti-Cecchi, L., Trinanes, J., Muller-Karger, F.E., Ambo-Rappe, R., Boström, C., Buschmann, A.H., Byrnes, J., Coles, R.G., Creed, J., Cullen-Unsworth, L.C., Diaz-Pulido, G., Duarte, C.M., Edgar, G.J., Fortes, M., Goni, G., Hu, C., Huang, X., Hurd, C.L., Johnson, C., Konar, B., Krause-Jensen, D., Krumhansl, K., Macreadie, P., Marsh, H., McKenzie, L.J., Mieszkowska, N., Miloslavich, P., Montes, E., Nakaoka, M., Norderhaug, K.M., Norlund, L.M., Orth, R.J., Prathee, A., Putman, N.F., Samper-Villarreal, J., Serrao, E.A., Short, F., Pinto, I.S., Steinberg, P., Stuart-Smith, R., Unsworth, R.K.F., van Keulen, M., van Tussenbroek, B.I., Wang, M., Waycott, M., Weatherdon, L. V., Wernberg, T. & Yaakub, S.M. (2019). Toward a coordinated global observing system for seagrasses and marine macroalgae. *Frontiers in Marine Science*, 6(317), 1-26.
- Foody, G.M., Aragon, H., de la Barreda-Bautista, B., Boyd, D.S., Cerdeira Estrada, S., Lopez, P., Magali, A., Metcalfe, S.E., Perera-Valderrama, S., Ressl, R., Siordia, O., Sjogersten, S. & Smith, G. (2021, julio 11-16). Developing a system to map and monitor beached *Sargassum* on the Caribbean coast of Mexico. *IEEE International Geoscience and Remote Sensing Symposium IGARSS*. Bruselas, Bélgica. <https://doi.org/10.1109/IGARSS47720.2021.9553052>.
- Jouanno, J., Benshila, R., Berline, L., Soulié, A., Radenac, M.H., Morvan, G., Sheinbaum, J., Chevalier, C., Thibaut, T., Changeux, T., Menard, F., Berthet, S., Aumont, O., Ethé, C., Nabat, P. & Mallet, M. (2021). A NEMO-based model of Sargassum distribution in the tropical Atlantic: Description of the model and sensitivity analysis (NEMO-Sarg1.0). *Geoscientific Model Development*, 14(6), 4069 - 4086.
- Jouanno, J., Morvan, G., Berline, L., Benshila, R., Aumont, O., Sheinbaum, J. & Ménard, F. (2023). Skillful seasonal forecast of *Sargassum* proliferation in the Tropical Atlantic. *Geophysical Research Letters*, 50(21), e2023GL105545 <https://doi.org/10.1029/2023GL105545>.
- Lara-Hernández, J.A., Enriquez, C., Zavala-Hidalgo, J., Cuevas. E., van Tussenbroek, B. & Uribe-Martínez, A. (2024). *Sargassum* transport towards Mexican Caribbean shores: Numerical modeling for research and forecasting. *Journal of Marine Systems*, 241, 103923. <https://doi.org/10.1016/j.jmarsys.2023.103923>
- Lazcano-Hernandez, H.E., Arellano Verdejo, J. & Rodríguez-Martínez, R.E. (2023). Algorithms applied for monitoring pelagic *Sargassum*. *Frontiers in Marine Science*, 10, 1216426. <https://doi.org/10.3389/fmars.2023.1216426>
- Lazcano Hernández, H.E., Arellano-Verdejo, J. & Santos Romero, M. (2023). Acciones colaborativas para el monitoreo del sargazo. *Ecofronteras*, 27(77), 8-12.
- López Argoytia, L. (2021). Sargazo y sociedad: haciendo ciencia en Quintana Roo. Conversación con Javier Arellano y Hugo Lazcano. *Ecofronteras*, 25 (71), 32-35.
- Rodríguez-Martínez, R. E., Jordán-Dahlgren, E., & Hu, C. (2022). Spatio-temporal variability of pelagic Sargassum landings

on the northern Mexican Caribbean. *Remote Sensing Applications: Society and Environment*, 27, 100767.

<https://doi.org/10.1016/j.rsase.2022.100767>

Santos-Romero, M., Arellano-Verdejo, J., Lazcano-Hernández, H.E. & Reyes, P.D. (2022, agosto 24-26). Automatic classification of images with beach linear perspective using convolutional neural networks. *IEEE Mexican International Conference on Computer Science (ENC)*, Xalapa, Veracruz, Mexico, <https://doi.org/10.1109/ENC56672.2022.9882952>.

Uribe-Martínez, A., Berriel-Bueno, D., Chávez, V., Cuevas, E., Almeida, K.L., Fontes, J.V.H., van Tussenbroek, B.I., Mariño-Tapia, I., Liceaga-Correa, M.A., Ojeda, E., Castañeda-Ramírez, D.G., Silva, R. (2022) Multiscale distribution patterns of pelagic rafts of sargasso (*Sargassum spp.*) in the Mexican Caribbean (2014–2020). *Frontiers in Marine Sciences*, 9, 920339. <https://doi.org/10.3389/fmars.2022.920339>

Vasquez, J.I., Uriarte-Arcia, A.V., Taud, H., García-Floriano, A., Ventura-Molina, E. (2022). Coastal *Sargassum* level estimation from smartphone pictures. *Applied Sciences*, 12(19), 10012. <https://doi.org/10.3390/app121910012>

Vázquez-Delfín, E., Galindo-De Santiago, C., Paredes-Chi, A., Ríos-Vázquez, A., Benavides-Lahnstein, A., Khatun, K. & Brodie, J. (2024). Marine macrophyte strandings in the Yucatán peninsula: Citizen science as a potential tool for long-term monitoring. *Aquatic Botany*, 190, 103728. <https://doi.org/10.1016/j.aquabot.2023.103728>

Villalobos Robles, L. A. & Kuroda, K. (2024). An investigation into the pelagic *Sargassum* incursion phenomenon: A study of seaweed coastal influxes on Cozumel Island, Mexico. *European Journal of Sustainable Development Research*, 8(1), em0247. <https://doi.org/10.29333/ejosdr/14106>

2. Origin and ecological importance

Alzate-Gaviria, L., Domínguez-Maldonado, J., Chablé-Villacís, R., Olguin-Macié, E., Leal-Bautista, R. M., Canché-Escamilla, G., ... Tapia-Tussell, R. (2021). Presence of polyphenols complex aromatic "Lignin" in *Sargassum* Spp. *Journal of Marine Science and Engineering*, 9(6), 1-10.

Berzunza Pasos, H.A., Caballero Vázquez, J.A., Peniche Pérez, J.C; Acosta González, G. (2022, junio 20-24). Diversidad de fauna asociada al arribazón de sargazo pelágico en la localidad de Puerto Morelos Quintana roo, México. *Memorias VII Simposio Recorecos*. Mérida Yucatán, México.

Caballero Vázquez, J.A., Acosta González, G. & Hernández Zepeda, C. (2020). El sargazo, un fenómeno complejo. *Ciencia*, 71(4), 14 - 19.

Cabrera, R., Díaz-Larrea, J., Areces, A.J., Nuñez-García, L., Cruz-Aviña, J.R. & Radulovich, R. (2021). Registro de arribazón inusual de *Sargassum* (Phaeophyceae) para la costa Atlántica de Costa Rica. *Hidrobiológica*, 31(1), 31-42. <https://doi.org/10.24275/uam/izt/dcbs/hidro/2021v31n1/cabrera>

Carral-Murrieta, C.O., Estrada-Gonzalez, M.C., Mazariegos-Villareal, A., Serviere-Zaragoza, E., Leon-Cisneros, K., Mendez-Rodriguez, L.C., Molina-Alonso, A., Rosales Catalan, L., & Mendoza-Becerril, M.A. (2021). *Sargassum* epibiotic hydroid diversity worldwide. *Phycologia*, 60, sup1: 12th International Phycological Congress, 42.

Carral-Murrieta C.O., Marques A.C., Serviere-Zaragoza E., Estrada-González M.C., Cunha A.F., Fernandez M.O., Mazariegos-Villarreal A, León-Cisneros K., López-Vivas J., Agüero J. & Mendoza-Becerril M.A. (2023). A survey of epibiont hydrozoans on *Sargassum*. *PeerJ*, 11, e15423 <https://doi.org/10.7717/peerj.15423>

Carral-Murrieta, C.O., Serviere-Zaragoza, E., Castañeda Rivero, F.R., Marques, A.C. & Mendoza-Becerril, M.A. (2024). *Sargassum* species as hydrozoans substrates: Key patterns of association or just availability?. *Aquatic Botany*, 191, 103738. <https://doi.org/10.1016/j.aquabot.2023.103738>

Carrillo, L., & Sheinbaum-Pardo, J. (2020). Sargazo en movimiento. *Ciencia*, 71(4), 20 - 27.

Cruz-Rivera, E., Flores-Díaz, M., Hawkins, A., (2015). A fish kill coincident with dense *Sargassum* accumulation in a tropical bay. *Bulletin of Marine Science*, 91(4), 455 - 456.

Dreckmann, K.M. & Senties, A. (2013). Las arribazones de algas marinas en el Caribe Mexicano. *Biodiversitas*, 107, 7-11.

García-Sánchez, M., Graham, C., Vera, E., Escalante-Mancera, E., Álvarez-Filip, L., & van Tussenbroek, B. I. (2020). Temporal changes in the composition and biomass of beached pelagic *Sargassum* species in the Mexican Caribbean. *Aquatic Botany*, 167, 103 - 275.

González-Nieto, D., Oliveira, M. C., Resendiz, M. L. N., Dreckmann, K. M., Mateo-Cid, L. E., & Sentíes, A. (2020). Molecular assessment of the genus *Sargassum* (Fucales, Phaeophyceae) from the Mexican coasts of the Gulf of Mexico and Caribbean, with the description of *S. xochitlæ* sp. Nov.. *Phytotaxa*, 461(4), 254 - 274.

González-Resendiz, L. (2022, junio 20-24). Epibiontes de *Sargassum* pelágico del Caribe mexicano. *Memorias VII Simposio Recorecos*. Mérida Yucatán, México.

Jouanno, J., Moquet, J.S., Berline, L., Radenac, M.H., Santini, W., Changeux, T., Thibaut, T., Podlejski, W., Ménard, F., Martinez, J.M., Aumont, O., Sheinbaum, J., Filizola, N., & N'Kaya, G.D.M. (2021). Evolution of the riverine nutrient export to the Tropical Atlantic over the last 15 years: Is there a link with *Sargassum* proliferation?. *Environmental Research Letters*, 16(3), 34042.

López González, I.E., Lucho-Constantino, C.A. & López-Pérez, P.A. (2023). La invasión de sargazo: de un problema ambiental a un área de oportunidad. *Tópicos de Investigación en Ciencias de la Tierra y Materiales*, 10(10), 18-26

<https://doi.org/10.29057/aactm.v10i10.11236>

- López-Fuerte, F.O., Siqueiros Beltrones, D.A., Martínez, Y.J. & Altamirano-Cerecedo, M.C. (2022). Floristics and biogeographical affinity of diatoms attached to *Sargassum fluitans* (Børgesen) Børgesen and *Sargassum natans* (Linnaeus) Gaillon arriving on Mexico's Caribbean coasts. *Diversity*, 14(9), 758.
- Magaña-Gallegos, E., García-Sánchez, M., Graham, C., Olivos-Ortiz, A., Siuda, A.N.S., van Tussenbroek, B.I. (2023). Growth rates of pelagic *Sargassum* species in the Mexican Caribbean. *Aquatic Botany*, 185, 103614. <https://doi.org/10.1016/j.aquabot.2022.103614>
- Magaña-Gallegos, E., Villegas-Muñoz, E., Salas-Acosta, E. R., Barba-Santos, M. G., Silva, R., & van Tussenbroek, B. I. (2023). The effect of temperature on the growth of holopelagic *Sargassum* species. *Phycology*, 3(1), 138-146. <https://doi.org/10.3390/phycology3010009>
- Martínez-González, G. (2019). Sargazo: la irrupción atípica de un ecosistema milenario. *Salud Pública de México*, 61(5), 698 - 700.
- Mendez-Tejeda, R., & Rosado Jiménez, G.A. (2019). Influence of climatic factors on *Sargassum* arrivals to the coasts of the Dominican Republic. *Journal of Oceanography and Marine Science*, 10(2), 22 - 32.
- Mendoza-Becerril, M. A., Serviere-Zaragoza, E., Mazariegos-Villarreal, A., Rivera-Perez, C., Calder, D. R., Vázquez-Delfín, E. F., ... & Robledo, D. (2020). Epibiont hydroids on beachcast *Sargassum* in the Mexican Caribbean. *PeerJ*, 8, e9795 <https://doi.org/10.7717/peerj.9795>
- Mendoza-Becerril, M.A., Serviere-Zaragoza, E., Mazariegos-Villarreal, A., Rivera-Perez, C., Calder, D.R., Vázquez-Delfín, E., Freile-Pelegriñ, Y., Agüero, J., & Robledo, D. (2021). Stranded *Sargassum* in the Mexican Caribbean: Epibiont hydroids. *Phycologia*, 60, sup1: 12th International Phycological Congress, 11.
- Monroy-Velázquez, L. V., Rodríguez-Martínez, R. E., van Tussenbroek, B. I., Aguiar, T., Solís-Weiss, V., & Briones-Fourzán, P. (2019). Motile macrofauna associated with pelagic *Sargassum* in a Mexican reef lagoon. *Journal of Environmental Management*, 252, 109650.
- Nava Jiménez, I.A. & Sánchez Hernández, H. (2020). El sargazo del mar Caribe mexicano. *Ciencia*, 71(4), 58 - 61.
- Ortega-Flores, P.A., Serviere-Zaragoza, E., de Anda-Montañez, J.A., Freile-Pelegriñ, Y., Robledo, D. & Méndez-Rodríguez, L.C. (2022). Trace elements in pelagic *Sargassum* species in the Mexican Caribbean: Identification of key variables affecting arsenic accumulation in *S. fluitans*. *Science of The Total Environment*, 806, Part 2, 150657. <https://doi.org/10.1016/j.scitotenv.2021.150657>
- Pérez-Pech, W.A., de Jesús-Navarrete, A. & Vargas-Espositos, A. A. (2024). Does sargassum contribute to meiofauna dispersal? The case of tardigrades and nematodes in the Mexican Caribbean. *Marine Environmental Research*, 195, 106349. <https://doi.org/10.1016/j.marenvres.2024.106349>
- Rosado-Espinosa, L. A., Freile-Pelegriñ, Y., Hernández-Nuñez, E., & Robledo, D. (2020). A comparative study of *Sargassum* species from the Yucatan Peninsula coast: morphological and chemical characterisation. *Phycologia*, 59(3), 261 - 271.
- Reyes-Mendoza, O., Manta, G. & Carrillo, L. (2022). Marine heatwaves and marine cold-spells on the Yucatan Shelf-break upwelling region. *Continental Shelf Research*, 239, 104707. <https://doi.org/10.1016/j.csr.2022.104707>
- Rosellón-Druker, J., Calixto-Pérez, E., Escobar-Briones, E., González-Cano, J., Masiá-Nebot, L., & Córdova-Tapia, F. (2022). A review of a decade of local projects, studies and initiatives of atypical influxes of pelagic *Sargassum* on Mexican Caribbean coasts. *Phycology*, 2(3), 254-279. <https://doi.org/10.3390/phycology2030014>
- Rutten, J., Arriaga, J., Montoya, L.D., Mariño-Tapia, I.J., Escalante-Mancera, E., Mendoza, E.T., van Tussenbroek, B.I. & Appendini, C.M. (2021). Beaching and natural removal dynamics of pelagic *Sargassum* in a fringing-reef lagoon. *Journal of Geophysical Research: Oceans*, 126(11), e2021JC017636. <https://doi.org/10.1029/2021JC017636>
- Salter, M.A., Rodríguez-Martínez, R.E., Álvarez-Filip, L., Jordán-Dahlgren, E., & Perry, C.T. (2020). Pelagic *Sargassum* as an emerging vector of high rate carbonate sediment import to tropical Atlantic coastlines. *Global and Planetary Change*, 195, 103332.
- Sissini, M. N., De Barros Barreto, M. B. B., Szechy, M. T. M., De Lucena, M. B., Oliveira, M. C., Gower, J., ... & Horta, P. A. (2017). The floating *Sargassum* (Phaeophyceae) of the South Atlantic Ocean - Likely scenarios. *Phycologia*, 56(3), 321 - 328.
- Soto-Morales, S., Martínez-Rodríguez, L.I., Serviere-Zaragoza, E., Martínez-Sálcido, A.I. & Soto-Jiménez, M.F. (2022). Identification of Li as a reference element in *Sargassum* bioaccumulation of conservative-type elements (Mg, Mo, Sb, Cs and U). *Marine Chemistry*, 242, 104110 <https://doi.org/10.1016/j.marchem.2022.104110>
- Theirlynck, T., Mendonça, I.R.W., Engelen, A. H., Bolhuis, H., Collado-Vides, L., van Tussenbroek, B.I., García-Sánchez, M., Zettler, E., Muyzer, G. & Amaral-Zettler, L. (2023). Diversity of the holopelagic *Sargassum* microbiome from the Great Atlantic *Sargassum* Belt to coastal stranding locations. *Harmful Algae*, 122, 102369. <https://doi.org/10.1016/j.hal.2022.102369>
- Torres-Conde, E.G. (2022). Is simultaneous arrival of pelagic *Sargassum* and *Physalia physalis* a new threat to the Atlantic coasts?. *Estuarine, Coastal and Shelf Science*, 275, 107971. <https://doi.org/10.1016/j.ecss.2022.107971>

3. Socioeconomical and environmental impacts

- Aguirre Muñoz, A. (2019). El sargazo en el Caribe Mexicano: De la negación y el voluntarismo a la realidad. *Gaceta Digital del Centro Interdisciplinario de Biodiversidad y Ambiente*, A.C. CelBA., 2, 1 - 12.
- Aldana Arana, D., Gil Cortés, T.P., Castillo Escalante, V. & Rodríguez-Martínez, R.E. (2024). Pelagic *Sargassum* as a potential vector for microplastics into coastal ecosystems. *Phycology*, 4, 139–152.
<https://doi.org/10.3390/phycology4010008>
- Alvarez-Filip, L., Estrada-Saldívar, N., Pérez-Cervantes, E., Molina-Hernández, A., & González-Barrios, F. J. (2019). A rapid spread of the stony coral tissue loss disease outbreak in the Mexican Caribbean. *PeerJ*, 7.
- Antonio-Martínez, F., Henaut, Y., Vega-Zepeda, A., Cerón-Flores, A.I., Raigoza-Figueroa, R., Cetz-Navarro, N.P., & Espinoza-Avalos, J. (2020). Leachate effects of pelagic *Sargassum* spp. on larval swimming behavior of the coral *Acropora palmata*. *Scientific reports*, 3910, 1-13.
- Cabanillas-Terán, N., Hernandez-Arana, H. A., Ruiz-Zarate, M. A., Vega-Zepeda, A., & Sanchez-Gonzalez, A. (2019). *Sargassum* blooms in the Caribbean alter the trophic structure of the sea urchin *Diadema antillarum*. *PeerJ*, 7.
- Casas-Beltrán, D. A., Gallaher, C. M., Yac, E. H., Moreno, K. F., Voglesonger, K., Leal-Bautista, R. M., & Lenczewski, M. (2020). Seaweed invasion! Temporal changes in beach conditions lead to increasing cenote usage and contamination in the Riviera Maya. *MDPI*, 12(6), 1-22.
- Cuevas Zimbrón, E. (2010). Pesquería de la raya pinta *Aetobatus narinari* en el sureste del Golfo de México: tasas de captura y estructura poblacional, 1 - 82.
- Espinosa, L. A., & Li Ng, J. J. (2020). El riesgo del sargazo para la economía y turismo de Quintana Roo y México. *Documento de Trabajo*, 20, 1 - 35.
- Fraga, J. & Robledo, D. (2022). Covid-19 and *Sargassum* blooms: impacts and social issues in a mass tourism destination (Mexican Caribbean). *Maritime Studies*, 21, 159-171. <https://doi.org/10.1007/s40152-022-00267-0>
- Gómez, I., Silva, R., Lithgow, D., Rodríguez, J., Banaszak, A.T. & van Tussenbroek B. (2022). A review of disturbances to the ecosystems of the Mexican Caribbean, their causes and consequences. *Journal of Marine Science and Engineering*, 10(5), 644. <https://doi.org/10.3390/jmse10050644>
- Hernández Arana, H. (2020). La descomposición del sargazo en la laguna arrecifal y su biota. *Ciencia*, 71(4), 34 - 41.
- Hernández-Terrones, L.M. (2020). Impacto del sargazo en el acuífero. *Ciencia*, 71(4), 42 - 45.
- Hendy, I.W., Woolford, K., Vincent-Piper, A., Burt, O., Schaefer, M., Cragg, S.M., Sanchez-Navarro, P. & Ragazzola, F. (2021). Climate-driven golden tides are reshaping coastal communities in Quintana Roo, Mexico. *Climate Change Ecology*, 2, 100033 <https://doi.org/10.1016/j.ecochg.2021.100033>
- León, C. (2019). El sargazo a escena. *Salud pública Méx*, 61(5), 701 - 703.
- López-Mendoza, P. G., Ruiz-Fernández, A. C., Sánchez-Cabeza, J. A., van Tussenbroek, B. I., Cuellar-Martinez, T., & Pérez-Bernal, L. H. (2020). Temporal trends of organic carbon accumulation in seagrass meadows from the northern Mexican Caribbean. *Catena*, 194, 104645.
- Lozano-Álvarez, E., Briones-Fourzán, P., Huchin-Mian, J.P., Segura-García, I., Ek-Huchim, J.P., Améndola-Pimenta, M. & Rodríguez-Canul, R. (2015). *Panulirus argus* virus 1 detected in oceanic postlarvae of Caribbean spiny lobster: implications for disease dispersal. *Diseases of Aquatic Organisms*, 117(2), 165-170. <https://doi.org/10.3354/dao02935>
- Maldonado-Saldaña, G. (2020). La huella del sargazo en las tortugas marinas. *Ciencia*, 71(4), 46 - 51.
- Martínez-Cano, M., Dorantes-Acosta, A.E., Lara-González, R., Salgado-Hernández, E. & Ortiz-Ceballos, A.I. (2023). Effect of *Sargassum* on the behavior and survival of the earthworm *Eisenia fetida*. *BioRxiv*.
<https://doi.org/10.1101/2023.09.08.556937>
- Olguin-Maciel, E., Leal-Bautista, R.M., Alzate-Gaviria, L., Domínguez-Maldonado, J. & Tapia-Tussell, R. (2022). Environmental impact of *Sargassum* spp. landings: an evaluation of leachate released from natural decomposition at Mexican Caribbean coast. *Environmental Science and Pollution Research*, 29(60), 91071-91080.
<https://doi.org/10.1007/s11356-022-22123-8>
- Ortegón-Aznar, I. & Ávila-Mosqueda, V. (2013). Arribazón de sargazo en la península de Yucatán: ¿Problema local, regional o mundial? . *Bioagrociencias*, 13(2), 28 - 38.
- Otto, K. L. (2023). Whose beach paradise? Tourism and the governance of *Sargassum* algae along Mexico's Caribbean Coast. *Cultural Analysis*, 21.2, 11-34. Recuperado de:
https://www.ocf.berkeley.edu/~culturalanalysis/volume21_2/pdf/BeachParadise.pdf
- Otto, L.K. (2023). "It's all about the beaches": *Sargassum* algae, tourism, and coastal transformations along the Mexican Caribbean. *Coastal Studies & Society*, 2(4), 356-377 <https://doi.org/10.1177/26349817221132379>
- Pérez-Gómez, J. A., García-Mendoza, E., Olivos-Ortiz, A., Paytan, A., Rebolledo-Vieyra, M., Delgado-Pech, B., & Almazán-Becerril, A. (2020). Indicators of nutrient enrichment in coastal ecosystems of the northern Mexican Caribbean. *Ecological Indicators*, 118, 106756.
- Pérez-Posada, I., Cabanillas-Terán, N., Rosas-Luis, R., Hernández-Arana, H.A. & Sánchez-Gonzalez, A. (2023). Isotopic niche shift in the sea urchins *Echinometra lucunter* and *E. viridis* after massive arrivals of *Sargassum* in the Mexican Caribbean. *Regional Studies in Marine Science*, 65, 103064. <https://doi.org/10.1016/j.rsma.2023.103064>
- Rodríguez-Martínez, R. E., & Van-Tussenbroek, B. I. (2020). El sargazo en los pastos marinos y arrecifes. *Ciencia*, 71(4),

- Rodríguez-Martínez, R., Van Tussenbroek, B.I., & Jordán-Dahlgren, E. (2016). Afluencia masiva de sargazo pelágico a la costa del Caribe mexicano 2014-2015. Florecimientos Algales Nocivos en México. Ensenada: CICESE, 2016, 352 - 365.
- Rodríguez-Martínez, R.E., Medina-Valmaseda, A.E., Blanchon, P., Monroy-Velázquez, L. V., Almazán-Becerril, A., Delgado-Pech, B., Vásquez-Yeomans, L., Francisco, V., & García-Rivas, M.C. (2019). Faunal mortality associated with massive beaching and decomposition of pelagic *Sargassum*. Marine Pollution Bulletin, 146, 201 - 205.
- Rodríguez-Martínez, R.E., Gómez Real, M.A., Torres-Conde, E.G. & Bates, M.N. (2024). Temporal and spatial variation in hydrogen sulfide (H_2S) emissions during holopelagic *Sargassum* spp. decomposition on beaches. Environmental Research, 247, 118235. <https://doi.org/10.1016/j.envres.2024.118235>
- Rodríguez-Martínez, R.E., Quintana-Pali, G., Trujano-Rivera, K.I., Herrera, R., García-Rivas, M.C., Ortíz, A., Castañeda, G., Maldonado, G. & Jordán-Dahlgren, E. (2021). *Sargassum* landings have not compromised nesting of loggerhead and green sea turtles in the Mexican Caribbean. Journal of Environmental Management, 299, 113614. <https://doi.org/10.1016/j.jenvman.2021.113614>
- Rodríguez-Martínez, R.E., Torres-Conde, E.G. & Jordán-Dahlgren, E. (2023). Pelagic *Sargassum* cleanup cost in Mexico. Ocean & Coastal Management, 237, 106542. <https://doi.org/10.1016/j.ocecoaman.2023.106542>
- Roig-Munar, F.X., Batista, O.O., del Toro Piñero, P., Rodríguez-Perea, A., Ferrer, B.G. & Garcia-Lozano, C. (2022). Pérdida de sedimento asociada a la retirada de depósitos de *Sargassum* spp. en las playas del Caribe. Nemus Revista de l'Ateneu de Natura, 12, 48-63.
- Rodríguez-Muñoz, R., Muñiz-Castillo, A.I., Euán-Avila, J.I., Hernández-Núñez, H., Valdés-Lozano, D.S., Collí-Dulá, R.C., & Arias-González, J.E. (2021). Assessing temporal dynamics on pelagic *Sargassum* influx and its relationship with water quality parameters in the Mexican Caribbean. Regional Studies in Marine Science, 48, 102005. <https://doi.org/10.1016/j.rsma.2021.102005>
- Sánchez, A., Gonzalez-Jones, P., Camacho-Cruz, K.A., Anguas-Cabrera, D., Ortiz-Hernández, M.C. & Rey-Villiers, N. (2023). Influence of pelagic sargassum influxes on the $\delta^{15}N$ in *Thalassia testudinum* of the Mexican Caribbean coastal ecosystem. Marine Pollution Bulletin, 192, 115091. <https://doi.org/10.1016/j.marpolbul.2023.115091>
- Tapia-Fuentes, J., Cruz-Salas, A.A., Martínez-Salvador, C., Ojeda-Benítez, S., Vázquez-Morillas, A. & Álvarez-Zeferino, J.C. (2023). Presence of microplastics deposited in *Sargassum* sp. on sandy beaches. Regional Studies in Marine Science, 66, 103152. <https://doi.org/10.1016/j.rsma.2023.103152>
- van Tussenbroek, B.I., Hernández Arana, H.A., Rodríguez-Martínez, R.E., Espinoza-Avalos, J., Canizales-Flores, H.M., González-Godoy, C.E., Barba-Santos, M.G., Vega-Zepeda, A., Collado-Vides, L., (2017). Severe impacts of brown tides caused by *Sargassum* spp. on near-shore Caribbean seagrass communities. Marine Pollution Bulletin, 122(1-2), 272 - 281.
- Wynne, S. P. (2017). Observational Evidence of Regional Eutrophication in the Caribbean Sea and Potential Impacts on Coral Reef Ecosystems and their Management in Anguilla, BWI. Anguilla Fisheries and Marine Resources Research Bulletin, 8(08), 1-22.

4. Potential uses and valorization

- Alvarado Flores, J.J., Alcaraz Vera, J.V., Ávalos Rodríguez, M.L., Rutiaga Quiñones, J.G., Espino Valencia, J., Guevara Martínez, S.J., Tututi Ríos, E. & Aguado Zarraga, R. (2022). Kinetic, thermodynamic, FT-IR, and primary constitution analysis of *Sargassum* spp from Mexico: Potential for hydrogen generation. International Journal of Hydrogen Energy, 47(70), 30107-30127 <https://doi.org/10.1016/j.ijhydene.2022.05.051>
- Amador-Castro, F., García-Cayuela, T., Alper, H. S., Rodriguez-Martinez, V., & Carrillo-Nieves, D. (2021). Valorization of pelagic sargassum biomass into sustainable applications: Current trends and challenges. Journal of Environmental Management, 283.
- Aparicio, E., Rodríguez-Jasso, R. M., Pinales-Márquez, C. D., Loredo-Treviño, A., Robledo-Olivo, A., Aguilar, C. N., ... Ruiz, H. A. (2021). High-pressure technology for *Sargassum* spp biomass pretreatment and fractionation in the third generation of bioethanol production. Bioresource Technology, 329, 124935.
- Aragón-Vallejo, J.D., Salazar-Cruz, B.A., Chávez-Cinco, M.Y., Rivera-Armenta, J.L. & Espíndola-Flores, A.C. (2023). Novel polypropylene–*Sargassum* particles composites: Evaluation of thermal and thermomechanical properties. Journal of Composites Science, 7, 11, 455. <https://doi.org/10.3390/jcs7110455>
- Araiza Macías, M. J., Balandro Fernández, A. L., & Hernández Contreras, J. P. (2019). Alga Sargazo como posible fuente de materias primas para la extracción de carotenoides. Memorias Del XXI Concurso Lasallista de Investigación, Desarrollo e innovación, 6(2), 25 - 28.
- Ayala-Mercado, I.D., Weber, B. & Durán-García, M.D. 2022. Use of hydrothermal pretreatment to enhance biogas production from pelagic *Sargassum*. BioEnergy Research, 15, 1639–1648. <https://doi.org/10.1007/s12155-021-10371-4>
- Azcorra-May, K.J., Olguín-Maciel, E., Domínguez-Maldonado, J., Toledano-Thompson, T., Leal-Bautista, R.M., Alzate-

- Gaviria, L. & Tapia-Tussell, R. 2022. *Sargassum* biorefineries: potential opportunities towards shifting from wastes to products. *Biomass Conversion and Biorefinery*, 14, 1837-1845. <https://doi.org/10.1007/s13399-022-02407-2>
- Azcorra-May, K.J., Olguin-Maciel, E., Leal-Bautista, R.M., Canche-Escamilla, G., Alzate-Gaviria, L., Toledano-Thompson, T. & Tapia-Tussell, R. (2023). *Sargassum* delignification: a first step to mitigate the socio-economic and environmental impacts in the Caribbean through its sustainable exploitation. *Biomass Conversion and Biorefinery*, <https://doi.org/10.1007/s13399-023-05158-w>
- Bautista, R. M. L., Tapia Tussell, R., & Alzate Gaviria, L. (2020). Usos potenciales del sargazo. *Ciencia*, 71(4), 52 - 57.
- Bonilla Loaiza, A.M., Rodríguez-Jasso, R.M., Belmares, R., López-Badillo, C.M., Araújo, R.G., Aguilar, C.N., Chávez, M.L., Aguilar, M.A. & Ruiz, H.A. (2022). Fungal proteins from *Sargassum* spp. using solid-state fermentation as a green bioprocess strategy. *Molecules*, 27(12), 3887 <https://doi.org/10.3390/molecules27123887>
- Canché Escamilla, G., Duarte Aranda, S. & Cruz Estrada, H. (2022). Valorización del sargazo como estrategia para mitigar su impacto ambiental. Determinación de su composición química y propiedades térmicas. *Memorias VII Simposio Recorecos*. Mérida Yucatán, México.
- Carrillo-Domínguez, S., Rodríguez-Martínez, R.E., Díaz-Martínez, M., Magaña-Gallegos, E. & Cuchillo-Hilario, M. (2022). Potential application of pelagic *Sargassum* spp. in animal feeding. *Journal of Applied Phycology*, 35(1), 1-12 <https://doi.org/10.1007/s10811-022-02877-x>
- Celis, L.B., Monroy-Velázquez, L.V., Leal-Bautista, R., Álvarez-Filip, L., García-Sánchez, M., Masia, L., & Silva, R. (2020). Massive influx of pelagic *Sargassum* spp. on the coasts of the Mexican Caribbean 2014 - 2020: Challenges and opportunities. *Water*, 12(10), 1-24.
- Chávez-Guerrero, L., Toxqui-Terán, A. & Pérez-Camacho, O. (2022). One-pot isolation of nanocellulose using pelagic *Sargassum* spp. from the Caribbean coastline. *Journal of Applied Phycology*, 34, 637-645 <https://doi.org/10.1007/s10811-021-02643-5>
- Chávez, V., Uribe-Martínez, A., Cuevas, E., Rodríguez-Martínez, R. E., Van Tussenbroek, B. I., Francisco, V., ... & Silva, R. (2020). Massive influx of pelagic *Sargassum* spp. on the coasts of the Mexican Caribbean 2014–2020: Challenges and opportunities. *Water*, 12(10), 2908.
- Chikani-Cabrera, K.D., Fernandes, P.M.B., Tapia-Tussell, R., Parra-Ortiz, D.L., Hernández-Zárate, G., Valdez-Ojeda, R. & Alzate-Gaviria, L. (2022). Improvement in methane production from pelagic *Sargassum* using combined pretreatments. *Life*, 12(8), 1214 <https://doi.org/10.3390/life12081214>
- Desrochers, A., Cox, S. A., Oxenford, H.A., & van Tussenbroek, B. (2020). *Sargassum* uses guide: A resource for Caribbean researchers, entrepreneurs and policy makers Lead, Food and Agriculture Organization of the United Nations (FAO). CERMES Technical Report, 97, 1 - 185.
- Díaz-Resendiz, K.J.G., Covantes-Rosales, C.E., Benítez-Trinidad, A.B., Navidad-Murrieta, M.S., Razura-Carmona, F.F., Carrillo-Cruz, C.D., Frias-Delgadillo, E.J., Pérez-Díaz, D.A., Díaz-Benavides, M.V., Zambrano-Soria, M., Ventura-Ramón, G.H., Romero-Castro, A., Alam-Escamilla, D. & Girón-Pérez, M.I. (2022). Effect of fucoidan on the mitochondrial membrane potential ($\Delta\Psi_m$) of leukocytes from patients with active COVID-19 and subjects that recovered from SARS-CoV-2 infection. *Marine Drugs*, 20(2), 99 <https://doi.org/10.3390/md20020099>
- Domínguez Maldonado, J.A., Solís Pereira, S., Magaña Álvarez, A.A., García Villalobos, F.J., Lizama, G. & Tapia Tussell, R. (2022). Identificación de las comunidades microbianas presentes en lixiviados de *Sargassum* spp. del Caribe Mexicano durante la degradación de lignina. *BioTecnología*, 26(3), 83. Recuperado de: <https://smbb.mx/wp-content/uploads/2023/08/Area-06-Bioinformatica-y-oomicas.pdf#page=3>
- Domínguez Maldonado, J.A., Tapia Tussell, R., Olgún Maciel, E., Cortés Velázquez, A., García Villalobos, F.J., Rivera Muñoz, G. & Solís Pereira, S. (2022). Degradación de lignina del sargazo pelágico proveniente del Caribe mexicano a temperatura ambiente. *BioTecnología*, 26(3), 102.
- Elizalde-Mata, A., Trejo-Caballero, M.E., Yáñez-Jiménez, F., Bahena, D., Esparza, R., López-Miranda, J.L., & Estevez, M. (2024). Assessment of Caribbean *Sargassum* species for nanocellulose foams production: An effective and environmentally friendly material to water-emerging pollutants removal. *Separation and Purification Technology*, 126627 <https://doi.org/10.1016/j.seppur.2024.126627>
- Escobar, B., Pérez-Salcedo, K. Y., Alonso-Lemus, I. L., Pacheco, D., & Barbosa, R. (2017). N-doped porous carbon from *Sargassum* spp. as metal-free electrocatalysts for oxygen reduction reaction in alkaline media. *International Journal of Hydrogen Energy*, 42(51), 30274 - 30283.
- Escobar-Medina, F.J., Rivera-Armenta, J.L., Hernández-Zamora, G., Salazar-Cruz, B.A., Zapién-Castillo, S. & Flores-Hernández, C.G. (2021). *Sargassum*-modified asphalt: Effect of particle size on its physicochemical, rheological, and morphological properties. *Sustainability*, 13(21), 11734 <https://doi.org/10.3390/su132111734>
- Espinosa-Antón, A.A., Hernández-Herrera, R.M. & González González, M. (2021). Potencial de las macroalgas marinas como bioestimulantes en la producción agrícola de Cuba. *Centro Agrícola*, 48(3), 81-92.
- Estrada, R.H.C., Vidal, C., Manzano, C., Hernández, I.F., Rodríguez, G.C.E. & Aranda, S.D. (2022). Mitigación de la contaminación mediante el aprovechamiento de sargazo y plástico recuperado para obtener un material de construcción. *Memorias VII Simposio Recorecos*. Mérida Yucatán, México.
- Fagundo Mollineda, A., Freile Pelegrin, Y., Caamal Fuentes, E., & Robledo, D. (2021). Seasonal variation of phenolic compounds and antioxidant activity in species of shore cast pelagic *Sargassum*. *Phycologia*, 60, sup1: 12th

International Phycological Congress, 12.

- Fagundo-Mollineda, A., Robledo, D., Vásquez-Elizondo, R.M. & Freile-Pelegrín, Y. (2023). Antioxidant activities in holopelagic *Sargassum* species from the Mexican Caribbean: Temporal changes and intra-thallus variation. *Algal Research*, 76, 103289 <https://doi.org/10.1016/j.algal.2023.103289>
- Flores-Mendoza, O. & Lopez-Arenas, T. (2023). Conceptual design of a biorefinery to use brown seaweed *Sargassum*. *Computer Aided Chemical Engineering*, 52, 2369-2374 <https://doi.org/10.1016/B978-0-443-15274-0.50376-0>
- García Martínez, K., Sánchez Fuentes, C.E., Salazar Cano, J.R., Gómora Herrera, D.R. & Santana Cruz, A. (2020). Obtención y caracterización de un biopolímero a partir del alga (*Sargassum* sp.) para elaborar empaques de un solo uso en combinación con celulosa y almidón. *Tendencias en Docencia e Investigación en Química*, 6(6), 492-496. Recuperado de: <http://zaloamati.acz.uam.mx/handle/11191/7754>
- Gayoso-Rodríguez, S., Borges-Gómez, L., Villanueva-Couoh, E., Estrada-Botello, M., & Garruña, R. (2018). Caracterización Física y Química De Materiales Orgánicos Para Sustratos Agrícolas. *Agrociencia*, 52(4), 639 - 652.
- González-Fuentes, F., Molina, G. A., Silva, R., López-Miranda, J. L., Esparza, R., Hernandez-Martinez, A. R., & Estevez, M. (2020). Developing a CNT-SPE sensing platform based on green synthesized AuNPs, using *Sargassum* sp. *Sensors*, 20(21), 1-26.
- González-Gloria, K.D., Rodríguez-Jasso, R.M., Rosero-Chasoy, G., Shiva, Kostas, E.T., Aparicio, E., Sanchez, A., López-Sandin, I. & Ruiz, H.A. (2023). Scale-up of hydrothermal processing: Liquid hot water and pilot-scale tubular steam explosion batch reactor for bioethanol production using macroalgae *Sargassum* spp biomass. *Bioresource Technology*, 369, 128448 <https://doi.org/10.1016/j.biortech.2022.128448>
- Gordillo Sierra, A.R., Amador-Castro, L.F., Ramírez-Partida, A., García-Cayuela, T., Carrillo-Nieves, D. & Alper, H.S. (2022). Valorization of Caribbean *Sargassum* biomass as a source of alginate and sugars for de novo biodiesel production. *Journal of Environmental Management*, 324, 116364 <https://doi.org/10.1016/j.jenvman.2022.116364>
- Hernández-Bolio, G. I., Fagundo-Mollineda, A., Caamal-Fuentes, E. E., Robledo, D., Freile-Pelegrin, Y., & Hernández-Núñez, E. (2020). NMR Metabolic Profiling of *Sargassum* Species Under Different Stabilization/Extraction Processes. *Journal of Phycology*, 47(2), 655 - 663.
- Hernández-Herrera, R. M., Santacruz-Ruvalcaba, F., Briceño-Domínguez, D. R., Di Filippo-Herrera, D. A., & Hernández-Carmona, G. (2018). Seaweed as potential plant growth stimulants for agriculture in Mexico. *Journal of Applied Phycology*, 28(1), 129 - 140.
- Hernández-Navarro, C., Pérez, S., Flórez, E., Acelas, N. & Muñoz-Saldaña, J. (2023). *Sargassum* macroalgae from Quintana Roo as raw material for the preparation of high-performance phosphate adsorbent from aqueous solutions. *Journal of Environmental Management*, 342, 118312 <https://doi.org/10.1016/j.jenvman.2023.118312>
- Juárez-Rangel, A.P., Solís-Oba, A., Martínez-Cásares, R.M., Castro-Rivera, R., & Solís-Oba, M.M. (2023). Greenhouse lettuce production fertilized with sargassum extract or vermicompost leachate. *Mexican Journal of Biotechnology*, 8(1), 21-36 <https://doi.org/10.29267/mxjb.2023.8.1.21>
- López-Aguilar, H., Kennedy-Puentes, G., Gómez, J., Huerta-Reynoso, E., Peralta-Pérez, M. D. R., de la Serna, F. Z. D., & Pérez - Hernández, A. (2021). Practical and theoretical modeling of anaerobic digestion of *sargassum* spp. In the mexican caribbean. *Polish Journal of Environmental Studies*, 30, 1-11.
- López-Aguilar, H.A., Quiroz-Cardoza, D. & Pérez-Hernández, A. (2022). Volatile compounds of algal biomass pyrolysis. *Journal of Marine Science and Engineering*, 10(7), 928 <https://doi.org/10.3390/jmse10070928>
- López-Miranda, J.L., Esparza, R., González-Reyna, M. A., España-Sánchez, B. L., Hernandez-Martinez, A. R., Silva, R., & Estévez, M. (2021). *Sargassum* influx on the mexican coast: A source for synthesizing silver nanoparticles with catalytic and antibacterial properties. *Applied Sciences*, 11(10), 4638.
- López-Miranda, J.L., Silva, R., Molina, G. A., Esparza, R., Hernandez-Martinez, A. R., Hernández- Carteño, J., & Estévez, M. (2020). Evaluation of a dynamic bioremediation system for the removal of metal ions and toxic dyes using *Sargassum* spp. *Journal of Marine Science and Engineering*. *Journal of Marine Science and Engineering*, 8(11), 899.
- López-Sosa, L. B., Morales - Máximo, M., Anastacio-Paulino, R., Custodio-Hernández, A., Corral-Huacuz, J. C., & Aguilera-Mandujano, A. (2021). Electron Microscopy Characterization of *Sargassum* Spp. from the Mexican Caribbean for Application as a Bioconstruction Material. *Microscopy and Microanalysis*, 27(S1), 3140 - 3143.
- López Miranda, J.L., Celis, L.B., Estévez, M., Chávez, V., van Tussenbroek, B.I., Uribe-Martínez, A., Cuevas, E., Rosillo Pantoja, I., Masia, L., Cauich-Kantun, C. & Silva, R. (2021). Commercial potential of pelagic *Sargassum* spp. in Mexico. *Frontiers in Marine Science* 8, 768470 <https://doi.org/10.3389/fmars.2021.768470>
- López-Miranda, J.L., Mares-Briones, F., Molina, G.A., González-Reyna, M.A., Velázquez-Hernández, I., España-Sánchez, B.L., Silva, R., Esparza, R. & Estévez, M. (2023). *Sargassum natans* / algae: An alternative for a greener approach for the synthesis of ZnO nanostructures with biological and environmental applications. *Marine Drugs*, 21(5), 297 <https://doi.org/10.3390/md21050297>
- López-Miranda, J.L., Molina, G.A., Esparza, R., González-Reyna, M.A., Silva, R. & Estévez, M. (2022). Ecofriendly and sustainable *Sargassum* spp.-based system for the removal of highly used drugs during the COVID-19 pandemic. *Arabian Journal of Chemistry*, 15(10), 104169 <https://doi.org/10.1016/j.arabjc.2022.104169>
- López-Miranda, J.L., Mares-Briones, F., Silva, R., Esparza, R. & Estevez, M. (2023). Green synthesis and characterization of metallic nanoparticles with environmental applications. *MRS Advances*, 8, 1172–1176 <https://doi.org/10.1557/s43580-023-00001-w>

- Lopez-Miranda, J.L., Molina, G.A., González-Reyna, M.A., España-Sánchez, B.L., Esparza, R., Silva, R. & Estévez, M. (2023). Antibacterial and anti-inflammatory properties of ZnO nanoparticles synthesized by a green method using *Sargassum* extracts. International Journal of Molecular Sciences, 24(2), 1474 <https://doi.org/10.3390/ijms24021474>
- López-Sosa, L.B., Alvarado-Flores, J.J., Corral-Huacuz, J.C., Aguilera-Mandujano, A., Rodríguez-Martínez, R.E., Guevara-Martínez, S.J., Alcaraz-Vera, J.V., Rutiaga-Quiñones, J.G., Zárate-Medina, J., Ávalos-Rodríguez, M.L. & Morales-Máximo, M. (2020). A prospective study of the exploitation of pelagic *Sargassum* spp. as a solid biofuel energy source. Applied Sciences, 10(23), 8706 <https://doi.org/10.3390/app10238706>
- López-Torres, M.I., Sosa-Olivier J.A., Laines-Canepe, J.R., Padilla-Rivera, A., Santiago-Cortez, I. & Jiménez-Hernández, F. J. (2023) Aerobic biotransformation of *Sargassum fluitans* in combination with sheep manure: optimization of control variables. Chemistry and Ecology, 39(8), 823-842 <https://doi.org/10.1080/02757540.2023.2263427>
- Martínez-Carrera, D., Larqué-Saavedra, A., Vieyra, M. R., Morales, P., Castillo, I., Bonilla, M., ... & Martínez, H. (2019). Los hongos comestibles, funcionales y medicinales: alternativa biotecnológica ante la problemática social, económica y ecológica del sargazo en el Caribe Mexicano. Foroconsultivo.org, 1-15.
- Martínez-Molina, E.C., Freile-Pelegrin, Y., Ovando-Chacón, S.L., Gutiérrez-Miceli, F.A., Ruiz-Cabrera, M.Á., Grajales-Lagunes, A., Luján-Hidalgo, C. & Abud-Archila, M. (2021). Development and characterization of alginate-based edible film from *Sargassum fluitans* incorporated with silver nanoparticles obtained by green synthesis. Journal of Food Measurement and Characterization, 16, 126-136 <https://doi.org/10.1007/s11694-021-01156-6>
- Melchor-Martínez, E.M., Reyes, A.G., Morreeuw, Z.P., Flores-Contreras, E.A., Araújo, R.G., Ramírez-Gamboa, D., Sosa-Hernández, J.E., Iqbal, H.M.N., González-Meza, G.M., Bonaccorso, A.D., Peña-Rodríguez, A. & Parra-Saldívar, R. (2023). Comparative study on the valorization of *Sargassum* from the Mexican Caribbean coast and Gulf of California as an ingredient on healthy diets for shrimp farming. Aquaculture Reports, 32, 101709 <https://doi.org/10.1016/j.aqrep.2023.101709>
- Méndez-Covarrubias, J.G. (2023). Aplicación del *Sargassum* sp. para la producción de vermicomposta utilizando lombriz de tierra, *Eisenia foetida* (lombriz roja californiana). Ambiens Techné et Scientia México, 11(2), 131-147. Recuperado de: <https://atsmexico.org/atsm/article/view/168>.
- Molina, G.A., González-Reyna, M.A., Loske, A.M., Fernández, F., Torres-Ortiz, D.A. & Estevez, M. (2022). Weak shock wave-mediated fucoxanthin extraction from *Sargassum* spp. and its electrochemical quantification. Algal Research, 68, 102891 <https://doi.org/10.1016/j.algal.2022.102891>
- Montes, M., Vásquez, A., de la O, J., Garcia, P., Hermida, G., Hernández, M. & Zamora, S. (2022). Study of the viability of *Sargassum* as a substrate to produce biofuel. Journal of Environmental Science and Engineering A, 11, 55-61 <https://doi.org/10.17265/2162-5298/2022.02.003>
- Nava-Jiménez, I.A., Tejeda-Vega, S., Cortina-Ramírez, G.E., Zarazúa-Ortega, G., Berriozabal-Islas, C., Sánchez-Hernández H. (2022). Macro and microelement analysis of *Sargassum fluitans* and *Sargassum natans* arriving in the coastal zone of Cancun, Quintana Roo, Mexico. Revista de Biología Marina y Oceanografía, 57(1), 26-33 <https://doi.org/10.22370/rbmo.2022.57.1.3358>
- Olivier, J.A.S., Canepa, J.R.L., Zarate, D.G., Díaz, A.G., Jaramillo, D.A.F., García, H.K.O. & López, B. E. (2022). Bioenergetic valorization of *Sargassum fluitans* in the Mexican Caribbean: The determination of the calorific value and washing mechanism. AIMS Energy, 10(1), 45-63 <https://doi.org/10.3934/energy.2022003>
- Orozco-González, J.G., Amador-Castro, F., Gordillo-Sierra, A.R., García-Cayuela, T., Alper, H.S., & Carrillo-Nieves, D. (2022). Opportunities surrounding the use of *Sargassum* biomass as precursor of biogas, bioethanol, and biodiesel production. Frontiers in Marine Science, 8, 791054 <https://doi.org/10.3389/fmars.2021.791054>
- Ortega-Flores, P.A., Gobert, T., Méndez-Rodríguez, L.C., Serviere-Zaragoza, E., Connan, S., Robledo, D., Freile-Pelegrín, Y., de AndaMontañez, J.A. & Waeles, M. (2023). Inorganic arsenic in holopelagic *Sargassum* spp. stranded in the Mexican Caribbean: Seasonal variations and comparison with international regulations and guidelines. Aquatic Botany, 188, 103674 <https://doi.org/10.1016/j.aquabot.2023.103674>
- Oxenford, H. A., Cox, S. A., van Tussenbroek, B. I., & Desrochers, A. (2021). Challenges of Turning the Sargassum Crisis into Gold: Current Constraints and Implications for the Caribbean. Phycology, 1(1), 27 - 48.
- Paredes-Camacho, R.M., González-Morales, S., González-Fuentes, J.A., Rodríguez-Jasso, R.M., Benavides-Mendoza, A., Charles-Rodríguez, A.V. & Robledo-Olivo, A. (2023). Characterization of *Sargassum* spp. from the Mexican Caribbean and its valorization through fermentation process. Processes, 11(3), 685 <https://doi.org/10.3390/pr11030685>
- Pareja-Rodríguez, R., Freile-Pelegrin, Y., Robledo, D., Ruiz-Gómez, M., Martínez-Flores, R. & Rodríguez-Gattorno, G. (2021). Self-generated active sites in graphene oxide-like materials by controlling the oxidative decomposition reactions of *Sargassum*. Journal of Environmental Chemical Engineering, 9(6), 106551 <https://doi.org/10.1016/j.jece.2021.106551>
- Peniche-Pavía, H.A., Tzuc-Naveda, J.D., Rosado-Espinosa, L.A. & Collí-Dulá, R.C. (2024). FTIR-ATR chemometric analysis on pelagic *Sargassum* reveals chemical composition changes induced by cold sample transportation and sunlight radiation. Journal of Applied Phycology, 36, 1391-1405 <https://doi.org/10.1007/s10811-023-03167-w>
- Pérez-Salcedo, K. Y., Shi, X., Kannan, A. M., Barbosa, R., Quintana, P., & Escobar, B. (2019). N - doped porous carbon

- from *Sargassum* spp. As efficient metal-free electrocatalysts for O₂ reduction in alkaline fuel cells. *Energies*, 12(3), 346.
- Rivera-Hernández, Y., Hernández-Eugenio, G., Balagurusamy, N., & Espinosa-Solares, T. (2022). Sargassum-pig manure co-digestion: An alternative for bioenergy production and treating a polluting coastal waste. *Renewable Energy*, 199, 1336-1344 <https://doi.org/10.1016/j.renene.2022.09.068>
- Rivera-Solís, L.L., Rodríguez-Jasso, R.M., Flores-López, M.L., Robledo-Olivo, A., Sandoval-Rangel, A., Sariñana-Aldaco, O. & González-Morales, S. (2021). Extractos de *Sargassum* spp. como inductores de tolerancia a *Fusarium oxysporum* en plántulas de tomate. *Ecosistemas y Recursos Agropecuarios*, 8(1), e2826. <https://doi.org/10.19136/era.a8n1.2826>.
- Rodríguez-Martínez, R.E., Roy, P.D., Torrescano-Valle, N., Cabanillas-Terán, N., Carrillo-Domínguez, S., Collado-Vides, L., García-Sánchez, M., & van Tussenbroek, B.I. (2020). Element concentrations in pelagic Sargassum along the Mexican Caribbean coast in 2018-2019. *PeerJ*, 8, e8667.
- Romero-Rodríguez, A., Luna-Zendejas, H.S., Solis-Oba, A., Castro-Rivera, R., Armenta-Bojórquez, A.D & Solís-Oba, M.M. (2022). Evaluation of the tomato quality fertilized with sargassum extract from the Mexican Caribbean and mycorrhizae. *Mexican Journal of Biotechnology*, 7(3), 15-31 <https://doi.org/10.29267/mxjb.2022.7.3.15>
- Rosado, N., Carrillo, V.A., Azcorra, M. & Pérez, R. (2021). Los cultivos no tradicionales y los elementos que los sustentan. *El Bohío*, 11(12), 38-49. Recuperado de: <http://hdl.handle.net/1834/42079>
- Rosales, E. M., Cancino, G. M., & Herrera, F. G. (2018). Identificación de algas en progreso, Yucatán para su aprovechamiento sustentable. *Revista del Centro de Graduados e Investigación. Instituto Tecnológico de Mérida*, 33(70), 14 - 21.
- Rosas-Medellín, D., Martínez-Urbizu, S., Barbosa, R., Alonso-Lemus, I.L. & Escobar, B. (2024). Co-pyrolysis of two environmental issues: Face mask and *Sargassum* spp. for efficacious solid waste management and its AEMFC applications. *International Journal of Hydrogen Energy*, 51(Part A), 601-611 <https://doi.org/10.1016/j.ijhydene.2023.06.339>
- Rosas-Medellín, D., Pérez-Salcedo, K. Y., Morales-Acosta, D., Rodríguez-Varela, F. J., & Escobar, B. (2021). Green synthesis of Pt nanoparticles and their application in the oxygen reduction reaction. *Journal of Materials Research*, 36(20), 4131 - 4140.
- Saldarriaga-Hernandez, S., Hernandez-Vargas, G., Iqbal, H. M. N., Barceló, D., & Parra-Saldívar, R. (2020). Bioremediation potential of *Sargassum* sp. biomass to tackle pollution in coastal ecosystems: Circular economy approach. *Science of the Total Environment*, 715, 136978.
- Saldarriaga-Hernandez, S., Melchor-Martínez, E. M., Carrillo-Nieves, D., Parra-Saldívar, R., & Iqbal, H. M. N. (2021). Seasonal characterization and quantification of biomolecules from sargassum collected from Mexican Caribbean coast. A preliminary study as a step forward to blue economy. *Journal of Environmental Management*, 298, 113507.
- Saldarriaga-Hernandez, S., Nájera-Martínez, E. F., Martínez-Prado, M. A., & Melchor-Martínez, E. M. (2020). Sargassum-based potential biosorbent to tackle pollution in aqueous ecosystems. An overview. *Case Studies in Chemical and Environmental Engineering*, 2, 100032.
- Salgado-Hernández, E., Ortiz-Ceballos, Á.I., Martínez-Hernández, S., Rosas-Mendoza, E.S., Dorantes-Acosta, A.E., Alvarado-Vallejo, A. & Alvarado-Lassman, A. (2023). Methane production of *Sargassum* spp. biomass from the Mexican Caribbean: Solid–liquid separation and component distribution. *International Journal of Environmental Research and Public Health*, 20(1), 219 <https://doi.org/10.3390/ijerph20010219>
- Salgado-Hernández, E., Ortiz-Ceballos, Á.I., Alvarado-Lassman, A., Martínez-Hernández, S., Rosas-Mendoza, E.S., Velázquez-Fernández, J.B. & Dorantes-Acosta, A.E. (2023) Energy-saving pretreatments affect pelagic *Sargassum* composition and DNA metabarcoding reveals the microbial community involved in methane yield. *PLoS ONE*, 18(8), e0289972 <https://doi.org/10.1371/journal.pone.0289972>
- Soto-Jimenez, M. F., Ochoa-Izaguirre, M. J., & Bojorquez-Mascareño, E. I. (2019). Beneficios de los florecimientos macroalgales para la producción de biofertilizantes. *Revista Mexicana De Ciencias Agrícolas*, 10(8), 1863 - 1874.
- Taboada Peniche, A., Sacramento Rivero, J., Zitlalpopoca Soriano, Á. & Baz Rodríguez, S. (2023). Dimensionamiento de un secador continuo de sargazo usando modelación matemática. *Abstraction & Application*, 40, 9-22.
- Tapia-Tussell, R., Avila-Arias, J., Maldonado, J. D., Valero, D., Olguin-Maciel, E., Pérez-Brito, D., & Alzate-Gaviria, L. (2018). Biological pretreatment of mexican caribbean macroalgae consortiums using Bm-2 strain (*Trametes hirsuta*) and its enzymatic broth to improve biomethane potential. *Energies*, 11(3), 494.
- Tonon, T., Machado, C.B., Webber, M., Webber, D., Smith, J., Pilsbury, A., Cicéron, F., Herrera-Rodríguez, L., Mora Jimenez, E., Suarez, J.V., Ahearn, M., Gonzalez, F. & Allen, M. J. (2022). Biochemical and elemental composition of pelagic *Sargassum* biomass harvested across the Caribbean. *Phycology*, 2(1), 204-215 <https://doi.org/10.3390/phycology2010011>
- Vázquez-Delfín, E., Freile-Pelegrín, Y., Salazar-Garibay, A., Serviere-Zaragoza, E., Méndez-Rodríguez, L. C., & Robledo, D. (2021). Species composition and chemical characterization of *Sargassum* influx at six different locations along the Mexican Caribbean coast. *Science of The Total Environment*, 795, 148852.
- Velázquez-Hernández, A. & Aguillón-Martínez, J.E. (2023). Aspen plus simulation of sargassum for quality synthesis gas. *Heliyon*, 9, e17731 <https://doi.org/10.1016/j.heliyon.2023.e17731>

5. Governance, regulations and restoration

- Durand, L., Sundberg, J. & Rodríguez-Martínez, R.E. (2024). Seaweed blooms in paradise: Ecological reflexivity, governance and the *Sargassum* crisis in the Mexican Caribbean. *Ocean and Coastal Research*, 72, e24014
<https://doi.org/10.1590/2675-2824072.23089>
- James, R.K., Silva, R., van Tussenbroek, B.I., Escudero-Castillo, M., Mariño-Tapia, I., Dijkstra, H.A., van Westen, R.M., Pietrzak, J.D., Candy, A.S., Katsman, C.A., Van Der Boog, C.G., Riva, R.E.M., Slobbe, C., Klees, R., Stapel, J., Van Der Heide, T., Van Katwijk, M.M., Herman, P.M.J. & Bouma, T.J. (2019). Maintaining tropical beaches with seagrass and algae: A promising alternative to engineering solutions. *BioScience*, 69(2), 136 - 142.

6. Containment, harvest and disposal

- Castillo Velazco, C.R., Fuentes Martínez, E.F., Salgado Jiménez, T., Deyanira, E. & Ríos Martínez, E. (2021, octubre 27-29). Revisión sistemática de literatura sobre tecnologías (patentes) que pueden contribuir con el problema del sargazo en el Caribe Mexicano. XIX Congreso ALTEC, Lima, Perú.
- Fuentes Martínez, E.F., Salgado Jiménez, T., Orea Ortiz, A. & Ríos Martínez, E. (2021, octubre 27-29). Diagnóstico del nivel de maduración tecnológica de los proyectos realizados en instituciones de investigación y universidades en México para mitigar el problema del sargazo. XIX Congreso ALTEC, Lima, Perú.