

Dr. Madelyn Marrero is a currently professor of Sustainable Construction at the School of Building Engineering, University of Seville. She is a Mechanical Engineer from the University of Puerto Rico, Mayagüez. She has a Master degree in Materials Behavior from the University of Illinois, Urbana-Champaign and a Ph.D. in Fracture Mechanics from the University of Seville. Dr. Marrero has been a visiting researcher in international centers such as Argonne National Laboratory, Illinois, NIST in Maryland, and the Latin Lab at Columbia University. She has participated in regional and international research projects that have generated over 80 scientific communications and articles related to energy efficiency, waste management, material recycling, carbon and ecological footprint.

Publications related to the project

1. **Scientific paper** - Ruiz Pérez, María Rocío, Alba Rodríguez, M^a Desirée, Castaño, Raúl, Solís Guzmán, Jaime, Marrero Meléndez, Madelyn: HEREVEA Tool for Economic and Environmental Impact Evaluation for Sustainable Planning Policy in Housing Renovation. *Sustainability*. 2019. Vol. 11. 2852-2871. 10.3390/Su11102852
2. **Scientific paper** - Ferreira-Sánchez, Antonio, Alba Rodríguez, M^a Desirée, Marrero Meléndez, Madelyn: Technical-Social Tandem in Restoration of Buildings Under Emergency Conditions: 40 Homes in Spain. *Journal of performance of constructed facilities*. 2018
3. **Scientific paper** - González Vallejo, Patricia, Muñoz Sanguinetti, Claudia, Marrero Meléndez, Madelyn: Environmental and economic assessment of dwelling construction in Spain and Chile. A comparative analysis of two representative case studies. *Journal of Cleaner Production*. 2018. Vol. 208. 621-635. <https://doi.org/10.1016/j.jclepro.2018.10.063>
4. **Scientific paper** - Marrero Meléndez, Madelyn, Martin, Craig, Munteaun, Radu, González Vallejo, Patricia, Alba Rodríguez, M^a Desirée: Tools to quantify environmental impact and their application to teaching: projects City-zen and HEREVEA. *IOP Conference Series: Materials Science and Engineering*. 2018. <https://doi.org/10.1088/1757-899X/399/1/012038>
5. **Scientific paper** - Castaño, Raúl, Solís Guzmán, Jaime, Marrero Meléndez, Madelyn: A novel Index of Vulnerable Homes: Findings from application in Spain. *Indoor and Built Environment*. 2018. 10.1177/1420326x18764783
6. **Scientific paper** - Madelyn Marrero-Meléndez, Manuel Puerto, Cristina Rivero-Camacho, Antonio Freire-Guerrero, Jaime Solís-Guzmán. Assessing the economic impact and ecological footprint of construction and demolition waste during the urbanization of rural land. *Resources, Conservation and Recycling*, 2017. 117: 160-174.
7. **Scientific paper** - Alejandro Martínez Rocamora, Jaime Solís Guzmán, Madelyn Marrero. 2016 LCA databases focused on construction materials: A review. *Renewable and Sustainable Energy Reviews*. 2016. Vol. 58. 565-573.

8. **Scientific paper** -Patricia González Vallejo, Madelyn Marrero, Jaime Solís Guzmán. 2015. The ecological footprint of dwelling construction in Spain. *Ecological Indicators*. Vol. 52. 75-84
9. **Scientific paper** - Jaime Solis-Guzman, Madelyn Marrero, Antonio Ramirez-de-Arellano. 2013. Methodology for Determining the Ecological Footprint of the Construction of Residential Buildings in Andalusia (Spain). *Ecological Indicators*. Vol. 25. 239-249.
10. **Scientific paper** - Carlos Leiva, Jaime Solís-Guzmán, Madelyn Marrero, Celia Arenas. 2013. Recycled blocks with improved sound and fire insulation containing construction and demolition waste, *Waste Management*, Vol 33(3):663-671.
11. **Scientific paper** - Madelyn Marrero, Luna Martínez Escobar, Moyano, Carlos Leiva, Ma. Pilar Mercader. 2013. Minimización del impacto ambiental en la ejecución de fachadas (Building facades: environmental impact minimization by means of recycled material usage) *Informes de la Construcción*, Vol. 65. 89-97.
12. **Book**- Jaime Solís Guzmán, Madelyn Marrero Meléndez, *Ecological Footprint Assessment of Building Construction*. Bentham Science Publishers. 2015. 162. ISBN 978-1-68108-099-4
13. **Book chapter**-Jaime Solís-Guzmán, Alejandro Martínez Rocamora, Madelyn Marrero. 2014. Methodology for determining the carbon footprint of the construction of residential buildings. Vol. 1. 49-83. *Assessment of Carbon Footprint in Different Industrial Sectors, Volume 1*. Springer. ISBN 978-981-4560-41-2
14. **Book chapter**- Solís Guzmán, Jaime, Leiva Fernández, Carlos, Martínez Rocamora, Alejandro, Vilches Arenas, Luis Francisco, Alba Rodríguez, M^a Desirée, et al. Recycling of Wastes into Construction Materials. *Environmental Implications of Recycling and Recycled Products*. Springer Science - Business Media Singapore Vol. 1. 51-78. ISBN 978-981-287-643-0

Research projects and grants

URBANBIM (Innovative Educational Integration of Urban Plannings Base on BIM-GIS Technologies and Focused on Circular Economy Challenges)ERASMUS+ 2018-1-RO01-KA203-049458. EU. 11/2018-10/2020. 299.955,00 EUR.

OERCO2 (Open Educational Resource CO2): CENTRO DE RECURSOS ONLINE PARA EL ESTUDIO INNOVADOR DEL CICLO DE VIDA DE LOS MATERIALES DE CONSTRUCCIÓN. EU. 2016-2018. 242.491,00 EUR.

PANEL. Particiones Arquitectónicas Naturales, Ecoeficientes y Ligeras. (Building Partition Pannels: Natural, Ecoefficient and Light). CONSEJERÍA DE ECONOMÍA, INNOVACIÓN Y CIENCIA (Regional Ministry of Economy). (Universidad de Sevilla). 2014-2018. 46.561,65 EUR.

Transition Island Communities: Empowering Localities to Act (TrisCo) EU, Interreg 4-C, (Julio 2009 – Septiembre 2011) (TRISCO-REF. BC. 1.1.1.); Investigador principal: Madelyn Marrero Meléndez. 67.700 EUR.