

List of publications of Antonio Soria Verdugo in JCR journals:

48. **“On the characteristic heating and pyrolysis time of thermally small biomass particles in a bubbling fluidized bed reactor”** A. Soria-Verdugo, M. Rubio-Rubio, E. Goos, U. Riedel. *Renewable Energy, In Press*, 2020.
47. **“Thermal behavior, thermodynamic and kinetics of co-pyrolysis of binary and ternary mixtures of biomass through thermogravimetric analysis”** S. Rasam, A.M. Haghighi, K. Azizi, A. Soria-Verdugo, M.K. Moraveji. *Fuel, In Press*, 2020.
46. **“Evaluation of heat transfer models at various fluidization velocities for biomass pyrolysis conducted in a bubbling fluidized bed”** L. von Berg, A. Soria-Verdugo, R. Scharler, C. Hochenauer, A. Anca-Couce. *International Journal of Heat and Mass Transfer, In Press*, 2020.
45. **“Comparison of wood pyrolysis kinetic data derived from thermogravimetric experiments by model-fitting and model-free methods”** A. Soria-Verdugo, M. Tomasi Morgano, H. Mätzing, E. Goos, H. Leibold, D. Merz, U. Riedel, D. Stapf. *Energy Conversion Management* 212, 112818, 2020.
44. **“Experimental evaluation of the convection heat transfer coefficient of large particles moving freely in a fluidized bed reactor”** L.M. García-Gutiérrez, F. Hernández-Jiménez, E. Cano-Pleite, A. Soria-Verdugo. *International Journal of Heat and Mass Transfer*, 153, 119612, 2020.
43. **“Pollutant emissions released during sewage sludge combustion in a bubbling fluidized bed reactor”** A. Soria-Verdugo, J. Kauppinen, T. Soini, L.M. García-Gutiérrez, T. Pikkarainen. *Waste Management* 105, 27-38, 2020.
42. **“Experimental study of bubble dynamics and flow transition recognition in a fluidized bed with wet particles”** H. Wang, A. Soria-Verdugo, J. Sun, J. Wang, Y. Yang, F. Hernández-Jiménez. *Chemical Engineering Science* 211, 115257, 2020.
41. **“Effect of bed material density on the performance of steam gasification of biomass in bubbling fluidized beds”** A. Soria-Verdugo, L. von Berg, D. Serrano, C. Hochenauer, R. Scharler, A. Anca-Couce. *Fuel* 257, 116118, 2019.
40. **“Pyrolysis and combustion kinetics study and complementary ash fusibility behavior of sugarcane bagasse, sugarcane straw, and their pellets – Case of study of agro-industrial residues”** K.R. de Palma, N. García-Hernando, M.A. Silva, E. Tomaz, A. Soria-Verdugo. *Energy & Fuels* 33, 3227-3238, 2019.
39. **“Numerical study of the effect of pressure and temperature on the fluidization of solids with air and (supercritical) CO₂”** F. Hernandez-Jimenez, L.M. Garcia-Gutierrez, A. Acosta-Iborra, A. Soria-Verdugo. *Journal of Supercritical Fluids* 147, 271-283, 2019.

38. **“Exergy recovery from solar heated particles to supercritical CO₂”** F Hernandez-Jimenez, **A. Soria-Verdugo**, A. Acosta-Iborra, D. Santana. Applied Thermal Engineering 146, 469-481, 2019.
37. **“Combining the lumped capacitance method and the simplified distributed activation energy model to describe the pyrolysis of thermally small biomass particles”** **A. Soria-Verdugo**, M. Rubio-Rubio, E. Goos, U. Riedel. Energy Conversion and Management 175, 164-172, 2018.
36. **“Pyrolysis of Cynara cardunculus L. samples – Effect of operating conditions and bed stage on the evolution of the conversion”** A. Morato-Godino, S. Sánchez-Delgado, N. García-Hernando, **A. Soria-Verdugo**. Chemical Engineering Journal 351, 371-381, 2018.
35. **“Lateral solids meso-mixing in pseudo-2D fluidized beds by means of TFM simulations”** F. Hernandez-Jimenez, J. Sanchez-Prieto, E. Cano-Pleite, **A. Soria-Verdugo**. Powder Technology 334, 183-191, 2018.
34. **“Analyzing the pyrolysis kinetics of several microalgae species by various differential and integral isoconversional kinetic methods and the Distributed Activation Energy Model”** **A. Soria-Verdugo**, E. Goos, N. García-Hernando, U. Riedel. Algal Research 32, 11-29, 2018.
33. **“Pyrolysis of sewage sludge in a fixed and a bubbling fluidized bed – Estimation and experimental validation of the pyrolysis time”** **A. Soria-Verdugo**, A. Morato-Godino, L.M. García-Gutiérrez, N. García-Hernando. Energy Conversion and Management 144, 235-242, 2017.
32. **“Improvement of the simulation of fuel particles motion in a fluidized bed by considering wall friction”** L.M. García-Gutiérrez, F. Hernández-Jiménez, E. Cano-Pleite, **A. Soria-Verdugo**. Chemical Engineering Journal 321, 175-185, 2017.
31. **“Pyrolysis of biofuels of the future: Sewage sludge and microalgae – Thermogravimetric analysis and modelling of the pyrolysis under different temperature conditions”** **A. Soria-Verdugo**, E. Goos, A. Morato-Godino, N. García-Hernando, U. Riedel. Energy Conversion and Management 138, 261-272, 2017.
30. **“Experimental study on the characteristic mixing time of solids and its link with the lateral dispersion coefficient in bubbling fluidized beds”** J. Sánchez-Prieto, F. Hernández-Jiménez, L.M. García-Gutiérrez, **A. Soria-Verdugo**. Chemical Engineering Journal 307, 113-121, 2017.
29. **“The role of fuel mixing on char conversion in a fluidized bed”** L. Lundberg, **A. Soria-Verdugo**, D. Pallarès, R. Johansson, H. Thunman. Powder Technology 316, 677-686, 2017.
28. **“Modeling the thin-layer drying process of Granny Smith apples: Application in an indirect solar dryer”** L. Blanco-Cano, **A. Soria-Verdugo**, L.M. García-Gutiérrez, U. Ruiz-Rivas. Applied Thermal Engineering 108, 1086-1094, 2016.

27. **“Modeling of the pyrolysis of biomass under parabolic and exponential temperature increases using the Distributed Activation Energy Model”** A. Soria-Verdugo, E. Goos, J. Arrieta-Sanagustín, N. García-Hernando. *Energy Conversion and Management* 118, 223-230, 2016.
26. **“Evaluation of the maximum evaporation rate in small-scale indirect solar dryers”** L. Blanco-Cano, A. Soria-Verdugo, L.M. García-Gutiérrez, U. Ruiz-Rivas. *Journal of Solar Energy Engineering* 138, 024502, 2016.
25. **“Agglomeration detection by pressure fluctuation analysis during *Cynara cardunculus* L. gasification in a fluidized bed”** J. Gómez-Hernández, D. Serrano, A. Soria-Verdugo, S. Sánchez-Delgado. *Chemical Engineering Journal* 284, 640-649, 2016.
24. **“Multi-resolution analysis of a drying process in a rotating-distributor fluidized bed”** J. Gómez-Hernández, A. Soria-Verdugo, J.V. Briongos, D. Santana. *Drying Technology* 34, 119-131, 2016.
23. **“Experimental analysis and simulation of the performance of a box-type solar cooker”** A. Soria-Verdugo. *Energy for Sustainable Development* 29, 65-71, 2015.
22. **“Stagnant regions estimation in fluidized beds from bed surface observation”** J. Sánchez-Prieto, A. Soria-Verdugo, J.V. Briongos, D. Santana. *Chemical Engineering Journal* 281, 109-118, 2015.
21. **“Fully coupled TFM-DEM simulations to study the motion of fuel particles in a fluidized bed”** F. Hernández-Jiménez, L.M. García-Gutiérrez, A. Soria-Verdugo, A. Acosta-Iborra. *Chemical Engineering Science* 134, 57-66, 2015.
20. **“Effect of the number of TGA curves employed on the biomass pyrolysis kinetics results obtained using the Distributed Activation Energy Model”** A. Soria-Verdugo, E. Goos, N. García-Hernando. *Fuel Processing Technology* 134, 360-371, 2015.
19. **“Maldistribution detection in bubbling fluidized beds”** J. Sánchez-Prieto, A. Soria-Verdugo, J. Gómez-Hernández, J. V. Briongos, D. Santana. *Chemical Engineering Journal* 270, 272-281, 2015.
18. **“Optimization of the feeding ports location in a fluidized bed combustor based on Monte Carlo simulations of fuel particles motion”** L. M. García-Gutierrez, A. Soria-Verdugo, U. Ruiz-Rivas. *Fuel Journal* 141, 82-92, 2015.
17. **“Thermal design guidelines of solar power towers”** M.R. Rodríguez-Sánchez, A. Soria-Verdugo, J. A. Almendros-Ibáñez, A. Acosta-Iborra, D. Santana. *Applied Thermal Engineering* 63, 428-438, 2014.
16. **“The effect of temperature on the distributor design in bubbling fluidized beds”** J. Sánchez-Prieto, A. Soria-Verdugo, J. V. Briongos, D. Santana. *Powder Technology* 261, 176-184, 2014.

15. **“Simulation and experimental study on the motion of non-reaction objects in the freeboard of a fluidized bed”** L. M. García-Gutierrez, **A. Soria-Verdugo**, C. Marugán-Cruz, U. Ruiz-Rivas. Powder Technology 263, 112-120, 2014.
14. **“Evaluating the accuracy of the distributed activation energy model for biomass devolatilization curves obtained at high heating rates”** **A. Soria-Verdugo**, L. M. García-Gutierrez, L. Blanco-Cano, N. Garcia-Hernando. U. Ruiz-Rivas. Energy Conversion and Management 86, 1045-1049, 2014.
13. **“Moving bed syngas conditioning: Modeling”** A. Gómez-García, J. Sánchez-Prieto, **A. Soria-Verdugo**, D. Santana. Applied Thermal Engineering 62, 809-822, 2014.
12. **“Simulation of object motion in a bubbling fluidized bed using a Monte Carlo method”** L.M. Garcia-Gutierrez, **A. Soria-Verdugo**, N. Garcia-Hernando, U. Ruiz-Rivas. Chemical Engineering Science 75, 50-53, 2013.
11. **“Energy and exergy analysis of an absorption power cycle”** N. Garcia-Hernando, M. de Vega, **A. Soria-Verdugo**, S. Sanchez-Delgado. Applied Thermal Engineering 55, 69-77, 2013.
10. **“Experimental quantification of the particle–wall frictional forces in pseudo-2D gas fluidised beds”** F. Hernández-Jiménez, J. Sánchez-Prieto, **A. Soria-Verdugo**, A. Acosta-Iborra. Chemical Engineering Science 102, 257-267, 2013.
9. **“Analysis of biomass and sewage sludge devolatilization using the distributed activation energy model”** **A. Soria-Verdugo**, N. García-Hernando, L. M. García-Gutierrez, U. Ruiz-Rivas. Energy Conversion and Management 65, 239-244, 2013.
8. **“Estimation and experimental validation of the circulation time in a 2D gas-solid fluidized beds”** S. Sánchez-Delgado, C. Marugán-Cruz, **A. Soria-Verdugo**, D. Santana. Powder Technology 235, 669-676, 2013.
7. **“Fluidized bed with a rotating distributor operated under defluidization conditions”** J. Gómez-Hernández, **A. Soria-Verdugo**, J. Villa-Briongos, D. Santana. Chemical Engineering Journal 195-196, 198-207, 2012.
6. **“Circulation of an object immersed in a bubbling fluidized bed”** **A. Soria-Verdugo**, L. M. Garcia-Gutierrez, S. Sanchez-Delgado, U. Ruiz-Rivas. Chemical Engineering Science 66, 78-87, 2011.
5. **“Solid conduction effects and design criteria in moving bed heat exchangers”** J. A. Almendros-Ibáñez, **A. Soria-Verdugo**, U. Ruiz-Rivas, D. Santana. Applied Thermal Engineering 31, 1200-1207, 2011.
4. **“Buoyancy effects on objects moving in a bubbling fluidized bed”** **A. Soria-Verdugo**, L. M. Garcia-Gutierrez, N. Garcia-Hernando, U. Ruiz-Rivas. Chemical Engineering Science 66, 2833-2841, 2011.

3. **“Motion of a large object in a bubbling fluidized bed with a rotating distributor”** A. Soria-Verdugo, N. Garcia-Hernando, J. A. Almendros-Ibáñez, U. Ruiz-Rivas. Chemical Engineering and Processing 50, 859-868, 2011.
2. **“Exergy optimization in a steady moving bed heat exchanger”** A. Soria-Verdugo, J. A. Almendros-Ibáñez, U. Ruiz-Rivas, D. Santana. Annals of New York Academy of Science 1161, 584-600, 2009.
1. **“Airport electric vehicle powered by fuel cell”** P. Fontela, A. Soria-Verdugo, J. Mielgo, J. F. Sierra, J. de Blas, L. Gauchia, J. M. Martínez. Journal of Power Sources 169, 184-193, 2007.