

## Prof. Sara Spilimbergo

### List of publications (last updated: May 12, 2023)

#### Articoli

1. **Spilimbergo, S.**, Elvassore, N., & Bertucco, A. (2002). **Microbial inactivation by high-pressure.** *The Journal of Supercritical Fluids*, 22(1), 55-63.
2. **Spilimbergo, S.**, & Bertucco, A. (2003). **Non-thermal bacterial inactivation with dense CO<sub>2</sub>.** *Biotechnology and Bioengineering*, 84(6), 627-638.
3. **Spilimbergo, S.**, Dehghani, F., Bertucco, A., & Foster, N. R. (2003). **Inactivation of bacteria and spores by pulse electric field and high pressure CO<sub>2</sub> at low temperature.** *Biotechnology and bioengineering*, 82(1), 118-125.
4. Elvassore, N., **Spilimbergo, S.**, Bertucco, A. (2003). **Inactivation of microorganisms by supercritical CO<sub>2</sub> in a semi-continuous process. Vol.15, p.115**
5. **Spilimbergo, S.**, Bertucco, A., Lauro, F. M., & Bertoloni, G. (2003). **Inactivation of Bacillus subtilis spores by supercritical CO<sub>2</sub> treatment.** *Innovative Food Science & Emerging Technologies*, 4(2), 161-165.
6. **Spilimbergo, S.**, & Mantoan, D. (2005). **Stochastic modeling of S. cerevisiae inactivation by supercritical CO<sub>2</sub>.** *Biotechnology progress*, 21(5), 1461-1465.
7. **Spilimbergo, S.**, Bertucco, A., Basso, G., & Bertoloni, G. (2005). **Determination of extracellular and intracellular pH of Bacillus subtilis suspension under CO<sub>2</sub> treatment.** *Biotechnology and bioengineering*, 92(4), 447-451.
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9. **Spilimbergo, S.**, Luca, G., Elvassore, N., & Bertucco, A. (2006). **Effect of high-pressure gases on phase behaviour of solid lipids.** *The Journal of supercritical fluids*, 38(3), 289-294.
10. Garcia-Gonzalez, L., Geeraerd, A. H., **Spilimbergo, S.**, Elst, K., Van Ginneken, L., Debevere, J., Van Impe, J.F. & Devlieghere, F. (2007). **High pressure carbon dioxide inactivation of microorganisms in foods: the past, the present and the future.** *International journal of food microbiology*, 117(1), 1-28.
11. **Spilimbergo, S.**, Mantoan, D., & Cavazza, A. (2007). **Yeast inactivation in fresh apple juice by high pressure nitrous oxide.** *International journal of food engineering*, 3(6).
12. **Spilimbergo, S.**, Mantoan, D., & Dalser, A. (2007). **Supercritical gases pasteurization of apple juice.** *The Journal of supercritical fluids*, 40(3), 485-489.
13. Gasperi, F., Aprea, E., Biasioli, F., Carlin, S., Endrizzi, I., Pirretti, G., & **Spilimbergo, S.** (2009). **Effects of supercritical CO<sub>2</sub> and N<sub>2</sub>O pasteurisation on the quality of fresh apple juice.** *Food chemistry*, 115(1), 129-136.
14. **Spilimbergo, S.**, Mantoan, D., Quaranta, A., & Della Mea, G. (2009). **Real-time monitoring of cell membrane modification during supercritical CO<sub>2</sub> pasteurization.** *The Journal of Supercritical Fluids*, 48(1), 93-97.
15. **Spilimbergo, S.**, Quaranta, A., Garcia-Gonzalez, L., Contrini, C., Cinquemani, C., & Van Ginneken, L. (2010). **Intracellular pH measurement during high-pressure CO<sub>2</sub> pasteurization evaluated by cell fluorescent staining.** *The Journal of Supercritical Fluids*, 53(1-3), 185-191.
16. **Spilimbergo, S.**, Foladori, P., Mantoan, D., Ziglio, G., & Della Mea, G. (2010). **High-pressure CO<sub>2</sub> inactivation and induced damage on Saccharomyces cerevisiae evaluated by flow cytometry.** *Process Biochemistry*, 45(5), 647-654.
17. **Spilimbergo, S.**, & Ciola, L. (2010). **Supercritical CO<sub>2</sub> and N<sub>2</sub>O pasteurisation of peach and kiwi juice.** *International journal of food science & technology*, 45(8), 1619-1625.

18. Ferrentino, G., & Spilimbergo, S. (2011). **High pressure carbon dioxide pasteurization of solid foods: current knowledge and future outlooks.** *Trends in Food Science & Technology*, 22(8), 427-441.
19. Spilimbergo, S. (2011). **Milk pasteurization at low temperature under N<sub>2</sub>O pressure.** *Journal of Food Engineering*, 105(1), 193-195.
20. Floren, M., Spilimbergo, S., Motta, A., & Migliaresi, C. (2011). **Porous poly (D, L-lactic acid) foams with tunable structure and mechanical anisotropy prepared by supercritical carbon dioxide.** *Journal of Biomedical Materials Research Part B: Applied Biomaterials*, 99(2), 338-349.
21. Bortoluzzi, D., Cinquemani, C., Torresani, E., & Spilimbergo, S. (2011). **Pressure-induced pH changes in aqueous solutions—on-line measurement and semi-empirical modelling approach.** *The Journal of Supercritical Fluids*, 56(1), 6-13.
22. Mantoan, D., & Spilimbergo, S. (2010). **Mathematical modeling of yeast inactivation of freshly squeezed apple juice under high-pressure carbon dioxide.** *Critical reviews in food science and nutrition*, 51(1), 91-97.
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24. Giulitti, S., Cinquemani, C., Quaranta, A., & Spilimbergo, S. (2011). **Real time intracellular pH dynamics in *Listeria innocua* under CO<sub>2</sub> and N<sub>2</sub>O pressure.** *The Journal of Supercritical Fluids*, 58(3), 385-390.
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26. Floren, M. L., Spilimbergo, S., Motta, A., & Migliaresi, C. (2012). **Carbon dioxide induced silk protein gelation for biomedical applications.** *Biomacromolecules*, 13(7), 2060-2072.
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28. Floren, M.L., Spilimbergo, S., Motta, A., & Migliaresi, C. (2012). **Carbon dioxide induced silk protein gelation for biomedical applications.** *Biomacromolecules*. Jul 9;13(7):2060-72
29. Migliaresi, C., Floren, M.C., Spilimbergo, S., Motta, A. (2012). **Novel preparation of silk hydrogels under high pressure carbon dioxide.** *Journal of tissue engineering and regenerative medicine*. Vol. 6, p.178
30. Donati, I., Benincasa, M., Foulc, M. P., Turco, G., Toppazzini, M., Solinas, D., Spilimbergo, S., Kikic, I., & Paoletti, S. (2012). **Terminal sterilization of BisGMA-TEGDMA thermoset materials and their bioactive surfaces by supercritical CO<sub>2</sub>.** *Biomacromolecules*, 13(4), 1152-1160.
31. Ferrentino, G., Belscak-Cvitanovic, A., Komes, D., & Spilimbergo, S. (2013). **Quality attributes of fresh-cut coconut after supercritical carbon dioxide pasteurization.** *Journal of Chemistry*, 2013.
32. Ferrentino, G., Balzan, S., & Spilimbergo, S. (2013). **Optimization of supercritical carbon dioxide treatment for the inactivation of the natural microbial flora in cubed cooked ham.** *International journal of food microbiology*, 161(3), 189-196.
33. Spilimbergo, S., Komes, D., Vojvodic, A., Levaj, B., & Ferrentino, G. (2013). **High pressure carbon dioxide pasteurization of fresh-cut carrot.** *The Journal of Supercritical Fluids*, 79, 92-100.
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35. Tamburini, S., Ballarini, A., Ferrentino, G., Moro, A., Foladori, P., Spilimbergo, S., & Jousson, O. (2013). **Comparison of quantitative PCR and flow cytometry as cellular viability methods to study bacterial membrane permeabilization following supercritical CO<sub>2</sub> treatment.** *Microbiology*, 159(Pt\_6), 1056-1066.
36. Manzocco, L., Spilimbergo, S., Ignat, A., Ferrentino, G., Panozzo, A., Mirolo, G., Anese, M., & Nicoli, M. C. (2014). **Short communication Effect of dense-phase CO<sub>2</sub> on polyphenoloxidase in model solutions.** *International Journal of Food Science and Technology*, 49, 1238-1241.
37. Spilimbergo, S., Cappelletti, M., Tamburini, S., Ferrentino, G., & Foladori, P. (2014). **Partial permeabilisation and depolarization of *Salmonella enterica* Typhimurium cells after treatment**

- with pulsed electric fields and high pressure carbon dioxide. *Process Biochemistry*, 49(12), 2055-2062.
38. Ferrentino, G., Calliari, N., Bertucco, A., & Spilimbergo, S. (2014). Validation of a mathematical model for predicting high pressure carbon dioxide inactivation kinetics of *Escherichia coli* spiked on fresh cut carrot. *The Journal of Supercritical Fluids*, 85, 17-23.
  39. Spilimbergo, S., Cappelletti, M., & Ferrentino, G. (2014). High pressure carbon dioxide combined with high power ultrasound processing of dry cured ham spiked with *Listeria monocytogenes*. *Food research international*, 66, 264-273.
  40. Galvanin, F., De Luca, R., Ferrentino, G., Barolo, M., Spilimbergo, S., & Bezzo, F. (2014). Bacterial inactivation on solid food matrices through supercritical CO<sub>2</sub>: A correlative study. *Journal of food engineering*, 120, 146-157.
  41. Tamburini, S., Foladori, P., Ferrentino, G., Spilimbergo, S., & Jousson, O. (2014). Accurate flow cytometric monitoring of *Escherichia coli* subpopulations on solid food treated with high pressure carbon dioxide. *Journal of applied microbiology*, 117(2), 440-450.
  42. Cappelletti, M., Ferrentino, G., & Spilimbergo, S. (2014). Supercritical carbon dioxide combined with high power ultrasound: An effective method for the pasteurization of coconut water. *The Journal of Supercritical Fluids*, 92, 257-263.
  43. Tamburini, S., Anesi, A., Ferrentino, G., Spilimbergo, S., Guella, G., & Jousson, O. (2014). Supercritical CO<sub>2</sub> induces marked changes in membrane phospholipids composition in *Escherichia coli* K12. *The Journal of membrane biology*, 247(6), 469-477.
  44. Ferrentino, G., & Spilimbergo, S. (2016). A combined high pressure carbon dioxide and high power ultrasound treatment for the microbial stabilization of cooked ham. *Journal of Food Engineering*, 174, 47-55.
  45. Ferrentino, G., & Spilimbergo, S. (2015). High pressure carbon dioxide combined with high power ultrasound pasteurization of fresh cut carrot. *The Journal of Supercritical Fluids*, 105, 170-178.
  46. Cappelletti, M., Ferrentino, G., & Spilimbergo, S. (2015). High pressure carbon dioxide on pork raw meat: Inactivation of mesophilic bacteria and effects on colour properties. *Journal of Food Engineering*, 156, 55-58.
  47. De Marchi, F., Aprea, E., Endrizzi, I., Charles, M., Betta, E., Corollaro, M. L., Cappelletti, M., Ferrentino, G., Spilimbergo, S., & Gasperi, F. (2015). Effects of pasteurization on volatile compounds and sensory properties of coconut (*Cocos nucifera* L.) water: thermal vs. high-pressure carbon dioxide pasteurization. *Food and Bioprocess Technology*, 8(7), 1393-1404.
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  52. Zambon, A., Vetralla, M., Urbani, L., Pantano, M. F., Ferrentino, G., Pozzobon, M., Pugno, N., De Coppi, P., Elvassore, N., & Spilimbergo, S. (2016). Dry acellular oesophageal matrix prepared by supercritical carbon dioxide. *The Journal of Supercritical Fluids*, 115, 33-41.
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55. Manzocco, L., Valoppi, F., Calligaris, S., Andreatta, F., **Spilimbergo, S.**, & Nicoli, M. C. (2017). **Exploitation of  $\kappa$ -carrageenan aerogels as template for edible oleogel preparation.** *Food Hydrocolloids*, 71, 68-75.
56. Braeuer, A. S., Schuster, J. J., Gebrekidan, M. T., Bahr, L., Michelino, F., Zambon, A., & **Spilimbergo, S.** (2017). **In situ Raman analysis of CO<sub>2</sub>—assisted drying of fruit-slices.** *Foods*, 6(5), 37.
57. Michelino, F., Gebrekidan, M. T., Zambon, A., Vetralla, M., Braeuer, A. S., & **Spilimbergo, S.** (2017). **In situ Raman-analysis of supercritical carbon dioxide drying applied to acellular esophageal matrix.** *The Journal of Supercritical Fluids*, 128, 194-199.
58. Manzocco, L., Plazzotta, S., **Spilimbergo, S.**, & Nicoli, M. C. (2017). **Impact of high-pressure carbon dioxide on polyphenoloxidase activity and stability of fresh apple juice.** *LWT-Food Science and Technology*, 85, 363-371.
59. Ferrentino, G., & **Spilimbergo, S.** (2017). **Non-thermal pasteurization of apples in syrup with dense phase carbon dioxide.** *Journal of Food Engineering*, 207, 18-23.
60. Bourdoux, S., Rajkovic, A., De Sutter, S., Vermeulen, A., **Spilimbergo, S.**, Zambon, A., Hofland, G., Uyttendaele, M., Devlieghere, F., & Devlieghere, F. (2018). **Inactivation of Salmonella, Listeria monocytogenes and Escherichia coli O157: H7 inoculated on coriander by freeze-drying and supercritical CO<sub>2</sub> drying.** *Innovative Food Science & Emerging Technologies*, 47, 180-186.
61. Giobbe, G. G., Zambon, A., Vetralla, M., Urbani, L., Deguchi, K., Pantano, M. F., Pugno, N.M., Elvassore, N., De Coppi, P. & **Spilimbergo, S.** (2018). **Preservation over time of dried acellular esophageal matrix.** *Biomedical Physics & Engineering Express*, 4(6), 065021.
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64. Zambon, A., Michelino, F., Bourdoux, S., Devlieghere, F., Sut, S., Dall'Acqua, S., Rajkovic, A., & **Spilimbergo, S.** (2018). **Microbial inactivation efficiency of supercritical CO<sub>2</sub> drying process.** *Drying Technology*, 36(16), 2016-2021.
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69. Morbiato, G., Zambon, A., Toffoletto, M., Poloniato, G., Dall'Acqua, S., de Bernard, M., & **Spilimbergo, S.** (2019). **Supercritical carbon dioxide combined with high power ultrasound as innovate drying process for chicken breast.** *The Journal of Supercritical Fluids*, 147, 24-32.
70. González-Alonso, V., Cappelletti, M., Bertolini, F. M., Lomolino, G., Zambon, A., & **Spilimbergo, S.** (2020). **Research Note: Microbial inactivation of raw chicken meat by supercritical carbon dioxide treatment alone and in combination with fresh culinary herbs.** *Poultry science*, 99(1), 536-545.
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73. Bertolini, F. M., Morbiato, G., Facco, P., Marszałek, K., Pérez-Esteve, É., Benedito, J., Zambon, A., **Spilimbergo, S.** (2020). **Optimization of the supercritical CO<sub>2</sub> pasteurization process for the preservation of high nutritional value of pomegranate juice.** *The Journal of Supercritical Fluids*, 104914
74. Mosca, A. C., Menghi, L., Aprea, E., Mazzucotelli, M., Benedito, J., Zambon, A., **Spilimbergo, S.**, & Gasperi, F. (2020). **Effect of CO<sub>2</sub> Preservation Treatments on the Sensory Quality of Pomegranate Juice.** *Molecules*, 25(23), 5598.
75. Zambon, A., Bourdoux, S., Pantano, M. F., Pugno, N. M., Boldrin, F., Hofland, G., Rajkovic, A., Devleghere, F. & **Spilimbergo, S.** (2021). **Supercritical CO<sub>2</sub> for the drying and microbial inactivation of apple's slices.** *Drying Technology*, 39(2), 259-267
76. Gallinaro, S., Zambon, A., Clavier, J. Y., Bertolini, M., Zulli, R., Greco, L., Benedito Fort, J.J., & **Spilimbergo, S.** (2021). **Financial Sustainability and Profitability of Supercritical CO<sub>2</sub> Pasteurization of Liquid Products: a Case Study.** *Chemical Engineering Transactions*, 87, 349-354.
77. Barberi, G., González-Alonso, V., **Spilimbergo, S.**, Barolo, M., Zambon, A., & Facco, P. (2021). **Optimization of the Appearance Quality in CO<sub>2</sub> Processed Ready-to-Eat Carrots through Image Analysis.** *Foods*, 10(12), 2999.
78. Zambon, A., Zulli, R., Boldrin, F., & **Spilimbergo, S.** (2022). **Microbial inactivation and drying of strawberry slices by supercritical CO<sub>2</sub>.** *The Journal of Supercritical Fluids*, 180, 105430.
79. Bourdoux, S., Zambon, A., Van der Linden, I., **Spilimbergo, S.**, Devleghere, F., & Rajkovic, A. (2022). **Inactivation of foodborne pathogens on leek and alfalfa seeds with supercritical carbon dioxide.** *The Journal of Supercritical Fluids*, 180, 105433.
80. Zambon, A., Facco, P., Morbiato, G., Toffoletto, M., Poloniato, G., Sut, S., Andrigo, P., Dall'Acqua, S., de Bernard, M., & **Spilimbergo, S.** (2022). **Promoting the preservation of strawberry by supercritical CO<sub>2</sub> drying.** *Food Chemistry*, 397, 133789.
81. Badens, E., **Spilimbergo, S.**, & Calvo, L. (2022). **Special issue on sterilization with supercritical carbon dioxide.** *Journal of Supercritical Fluids*, 190, 105716.
82. Zambon, A., Perez, A. G., **Spilimbergo, S.**, & Fernandez Escamez, P. S. (2022). **Training in tools to develop quantitative microbial risk assessment along the food chain of Spanish products.** *EFSA Journal*, 20 (S2), e200903.
83. Chen, Z., **Spilimbergo, S.**, Mousavi Khaneghah A., Zhu, Z., & Marszałek, K. (2022). **The effect of supercritical carbon dioxide on the physiochemistry, endogenous enzymes, and nutritional composition of fruit and vegetables and its prospects for industrial application: an overview.** *Critical Reviews in Food Science and Nutrition*.
84. Santi, F.; Zulli, R.; Lincetti, E.; Zambon, A.; **Spilimbergo, S.** (2023). **Investigating the Effect of Rosemary Essential Oil, Supercritical CO<sub>2</sub> Processing and Their Synergism on the Quality and Microbial Inactivation of Chicken Breast Meat.** *Foods*, 12, 1786.

#### Congressi a partecipazione orale

1. 2<sup>nd</sup> International Meeting on High Pressure Chemical Engineering, Amburgo, Germania, **Marzo 2001**, **Microbial inactivation by high-pressure**, (S. Spilimbergo, N. Elvassore, A. Bertucco).
2. 6<sup>th</sup> Italian Conference on Chemical and Process Engineering, Pisa, **Giugno 2003**, **Pasteurization of orange juice by supercritical CO<sub>2</sub> treatment: kinetic of microbial inactivation**, (S. Spilimbergo, A. Bertucco, D. Marchese), versione elettronica ISBN: 8890077522.
3. 11<sup>th</sup> International Symposium on SFC, SFE and Processing, Pittsburgh, U.S.A., **Agosto 2004**, **Non-thermal microbial inactivation with dense CO<sub>2</sub>: state-of-art and potentials**, (A. Bertucco, S. Spilimbergo).

4. GRICU 2004, Porto d'Ischia (Napoli), **Settembre 2004**, *Determination of intracellular pH of B.subtilis after High Pressure CO<sub>2</sub> treatment*, (S. Spilimbergo, A. Bertucco, L. Cesaro, G. Basso), Vol 1, pag. 459-462 ISBN 8887030804.
5. 10<sup>th</sup> European Meeting on Supercritical Fluids, Colmar, Francia, **Dicembre 2005**, *Effects of supercritical pasteurization of foodstuff on microorganisms viability evaluated by cell fluorescent staining*, (S. Spilimbergo, P. Foladori, A. Quaranta, G. Della Mea, G. Ziglio, D. Mantoan), versione elettronica, ISBN 290526747x.
6. 8<sup>th</sup> Conference on supercritical fluids and their applications, Ischia (Napoli), **Maggio 2006**, *In-situ monitoring of microorganisms viability evaluated by cell fluorescent staining during CO<sub>2</sub> pasteurization treatment*, (S. Spilimbergo, A. Quaranta, G. Della Mea). Editore: E.Reverchon, Toma 1, pag. 373-377 ISBN 8878970107.
7. 2<sup>th</sup> European conference on sensory consumer science of food and beverages, Hague, The Netherlands, 26-29 **Settembre 2006**, *Supercritical pasteurisation: sensory diversity between fresh and treated apple juices*, (F. Gasperi, F. Biasioli, R. Ciaghi, A. Dalsler, I. Endrizzi, G. Gallerani, D. Mantoan, S. Spilimbergo), P132.
8. ISSF 2009, 9<sup>th</sup> International Symposium on Supercritical Fluids, Bordeaux, France, **Maggio 2009**, *Measurement of intracellular ph during supercritical pasteurization evaluated by cell fluorescent staining* (S. Spilimbergo, A. Quaranta, L. Garcia-Gonzalez, C. Contrini, L. Van Ginneken, G. Della Mea), ISBN 9782905267665.
9. Biomicroword2009, Lisbona, Portogallo, **dicembre 2009**, *Human pathogens, nosocomial infections, heat-sensitive textile implants and an innovative approach to deal with them* (C. Cinquemani, Eckhard Schollmeyer, S. Spilimbergo).
10. Biomicroword2009, Lisbona, Portogallo, **dicembre 2009**, *Supercritical fluids for pasteurization - on-line investigation of the inactivation mechanisms* (S. Spilimbergo, C. Cinquemani).
11. 13<sup>th</sup> European Meeting On Supercritical Fluids The Hague, **Ottobre 2011**, *Effect of supercritical CO<sub>2</sub> pasteurization of natural microflora and quality attributes of fresh – cut coconut* (G. Ferrentino, S. Balzan, S. Spilimbergo), ISBN 9782905267771.
12. EFFOST Annual Conference, Berlin, Germania, **Novembre 2011**, *Microbial inactivation after supercritical CO<sub>2</sub> processing in ham over its shelf life* (G. Ferrentino, S. Balzan, S. Spilimbergo).
13. 10<sup>th</sup> International Meeting on Supercritical Fluids, San Francisco, CA, USA, **Maggio 2012**, *Supercritical CO<sub>2</sub> inactivation on Solid Materials* (S. Spilimbergo, G. Ferrentino. S. Balzan, A. Bertucco), versione elettronica.
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