



Pulsed Light – Research Articles Covering Food Treatment and Related Applications



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Journal Articles

Sharma, R. R., A. Demirci. 2003. Inactivation of *E. coli* O157:H7 on alfalfa seeds with pulsed ultraviolet light and response surface modeling. *J. Food Science*. 68:1448-1453.

Hillegas, S. L. and A. Demirci. 2003. Inactivation of *Clostridium sporogenes* in clover honey by pulsed UV-light treatment. *CIGR J. AE Sci. Res. Dev. Manuscript FP 03-009*. Vol. V. 7 pp.

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Krishnamurthy, K., A. Demirci, and J. Irudayaraj. 2004. Inactivation of *Staphylococcus aureus* by pulsed UV-light treatment. *J. Food Prot.* 67:1027-1030.

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Bialka K. L., A. Demirci. 2007. Decontamination of *Escherichia coli* O157:H7 and *Salmonella* Enterica on blueberries using ozone and pulsed UV-Light. *Journal of Food Science* 72 (9): M391-M396.

Bialka, K. L., A. Demirci, V.M. Puri. 2008. Modeling the inactivation of *Escherichia coli* O157:H7 and *Salmonella* Enterica on raspberries and strawberries resulting from exposure to ozone or pulsed UV-light. *Journal of Food Engineering*. 85 (3): 444-449.

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Bialka, K.L., P. N. Walker, V. M. Puri, and A. Demirci. 2008. Pulsed UV-light penetration of characterization and the inactivation of *Escherichia coli* K12 in solid model systems. Transactions of the ASABE. 51(1): 195-204.

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Krishnamurthy, K., A. Demirci, and J. Irudayaraj. 2008. Inactivation of *Staphylococcus aureus* in milk and milk foam by pulsed UV-light treatment and surface response modeling. Transactions of the ASABE. 51(6): 2083-2090.

Demirci, A. and L. Panico. 2008. Pulsed ultraviolet light. Food Science and Technology International. 14:443-446.

Krishnamurthy, K., J. C. Tewari, J. Irudayaraj, and A. Demirci. 2008. Microscopic and spectroscopic evaluation of inactivation of *Staphylococcus aureus* by pulsed UV light and infrared heating. Food Bioprocess Technol. In-Print. DOI 10.1007/s11947-008-0084-8.

Book Chapters

Krishnamurthy, K., J. Irudayaraj, S. Jun, A. Demirci and W. Yang. 2008. UV pasteurization of food materials. In *Food Processing Operations and Modeling*, 2nd edition, Jun, S. and J. Irudayaraj, Eds., CRC Press.

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Demirci, A., and J. Irudayaraj. 2003. Applications of pulsed UV-light processing for ISS and planetary outposts. 33rd International Conference for Environmental Systems. SAE Paper No. 03ICES-53. Vancouver, Canada. 5 pp.

Hillegas, S. L., and A. Demirci. 2003. Inactivation of *Clostridium sporogenes* in clover honey by pulsed UV-light treatment. ASAE 96th Annual International Meeting. Paper No. 03-7017. Las Vegas, NV. 6 pp.

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Krishnamurthy, K., A. Demirci, and J. Irudayaraj. 2004. Milk pasteurization by pulsed UV-light treatment. IBE Paper No. P12. Proceedings of Annual International Meeting of The Institute of Biological Engineering. Fayetteville, AR. 9 pp.

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Krishnamurthy, K., A. Demirci, and J. Irudayaraj. 2005. *Staphylococcus aureus* inactivation using pulsed UV-light for continuous milk treatment. ASAE Paper No. 05-6151. American Society of Agricultural Engineers. St. Joseph, MI. 11 pp.

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Krishnamurthy, K., A. Demirci, S. J. Jun, and J. Irudayaraj. 2006. *Staphylococcus aureus* inactivation using pulsed UV-light for continuous milk treatment. ASABE Paper No. NABEC 06-P019. American Society of Agricultural Engineers. St. Joseph, MI. 12 pp.

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Bialka, K.L. and A. Demirci. 2007. Pulsed Ultraviolet-Light Decontamination of Small Fruits. ASABE Paper No. 076107. American Society of Agricultural Engineers. St. Joseph, MI. 12 pp.

Krishnamurthy, K, J. C. Tewari, J. M. Irudayaraj, and A. Demirci . 2007. Investigation of *Staphylococcus aureus* Inactivation by Pulsed UV-light and Infrared Heating Using Micro-spectrometry and Transmission Electron Microscopy. ASABE Paper No. 076027. American Society of Agricultural Engineers. St. Joseph, MI. 12 pp.

Keklik, N.M., A. Demirci, and V.M. Puri. 2008. Decontamination of unpackaged and vacuum-packaged boneless chicken breast with pulsed UV-light. ASABE Paper No. 083564. American Society of Agricultural Engineers. St. Joseph, MI. 15 pp.

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Bialka, K.L. and A. Demirci. 2008. Decontamination of blueberries using gaseous ozone, aqueous ozone, and pulsed UV-light. ASABE Paper No. 084551. American Society of Agricultural Engineers. St. Joseph, MI. 16 pp.

Keklik, N.M., A. Demirci, and V.M. Puri. 2009. Decontamination of chicken frankfurters with pulsed UV-light. ASABE Paper No. 095973. American Society of Agricultural Engineers. St. Joseph, MI. 14 pp.

Keklik, N.M., A. Demirci, P.H. Patterson, and V.M. Puri. 2009. Decontamination of shell-eggs with pulsed UV-light. ASABE Paper No. 095974. American Society of Agricultural Engineers. St. Joseph, MI. 10 pp.

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Section II: Dr. Carmen Moraru

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Refereed research papers

Uesugi A. and Moraru C.I. 2009. Reduction of *Listeria* on ready-to-eat sausages after exposure to a combination of Pulsed Light and nisin. *Journal of Food Protection* 72(2):347-353

Sauer A. and Moraru C.I. 2009. Inactivation of *E. coli* ATCC 25922 and *E. coli* O157:H7 in apple juice and apple cider using Pulsed Light treatment. *In press. Journal of Food Protection*

Uesugi A., Woodling S.E. and Moraru C.I. 2007. Inactivation kinetics and factors of variability in the Pulsed Light treatment of *Listeria innocua* cells. *Journal of Food Protection* 70(11):2518-2525

Woodling S.E. and Moraru C.I. 2007. Effect of spectral range in surface inactivation of *Listeria innocua* using broad spectrum Pulsed Light. *Journal of Food Protection* 70(4):906-916

Woodling S.E. and Moraru C.I. 2005. Influence of surface topography on the effectiveness of Pulsed Light treatment for the inactivation of *Listeria innocua* on stainless steel surfaces. *Journal of Food Science* 70(7):345-351

Books chapters

Moraru C.I. and Uesugi A. 2009. Pulsed Light Treatment: Principles and Applications. In: *Ultraviolet Light in Food Technology: Principles and Applications*, by Koutchma T., Forney L. and Moraru C.I. p. 235-265.

Proceedings

Moraru C. I., Uesugi A. R., Woodling S. E. and Sauer A. 2007. Microbial inactivation in foods using Pulsed Light: Factors of influence and potential applications. *Proceedings of the 2007 World Congress on Ozone and Ultraviolet Technologies*. Available electronically. P. 2738-2754

Woodling S.E. and Moraru C.I. 2005. Pulsed Light inactivation of *Listeria innocua* on solid surfaces – substrate and spectral range effects. *Proceedings of the 9th Conference of Food Engineering*

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Published abstracts

Hsu L., Sauer A. and Moraru C.I. 2008. Effect of spatial distribution of fluence on the in-depth inactivation of *E. coli* by Pulsed Light in liquid substrates. Book of abstracts of the Annual Meeting of IFT, New Orleans, July 2008

Uesugi A. R., Hsu L., and Moraru C. I. 2008. A closer look at Pulsed Light treatment: *Listeria innocua* and *Escherichia coli* survivors' growth and resistance behavior in the plateau region of inactivation curves. Book of abstracts of the Annual Meeting of IFT, New Orleans, July 2008

Wihodo M. and Moraru C. I. 2008. Use of Pulsed Light curing to enhance the physical properties of protein films. Book of abstracts of the Annual Meeting of IFT, New Orleans, July 2008

Sauer A. and Moraru C.I. 2007. Inactivation of *E. coli* in apple cider and juice using Pulsed Light treatment. Book of abstracts of the Annual Meeting of the Institute of Food Technologists, Chicago, IL, July 2007

Uesugi, A. R. and Moraru C. I. 2007. Reduction of *L. innocua* on cooked sausages after exposure to a combination of Pulsed Light and Nisin. Book of abstracts of the Annual Meeting of the Institute of Food Technologists, Chicago, IL, July 2007

Uesugi, A.R., Woodling S.E. and Moraru C.I. 2006. Inactivation kinetics of *Listeria innocua* by Pulsed Light treatment as described by the Weibull model. Book of abstracts of the Annual Meeting of the Institute of Food Technologists, Orlando FL, June 2006

Wang D.M. and Moraru C.I. 2006. Microbial inactivation on the surface of ready-to-eat meats using Pulsed Light treatment. Book of abstracts of the Annual Meeting of the Institute of Food Technologists, Orlando FL, June 2006 (undergraduate research paper)

Moraru, C. I. 2006. Pulsed light as a bactericidal treatment for the food industry: What does it do and where does it fit best? Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006

Woodling S.E. and Moraru C.I. 2005. Influence of spectral range and sublethal injury in Pulsed Light treatment of *Listeria innocua* on stainless steel surfaces. Book of abstracts of the Annual Meeting of the Institute of Food Technologists, New Orleans, July 2005

Woodling S.E. and Moraru C.I. 2004. Effectiveness of Pulsed Light treatment for microbial decontamination of stainless steel food contact surfaces. Book of abstracts of the Annual Meeting of the Institute of Food Technologists, Las Vegas, July 2004

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07/07/09