

# Shaojin Wang

## OFFICE

Department of Biological Systems Engineering  
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## EXPERTISE

- Microwave/radio frequency (RF) heating, related thermal/dielectric properties measurement, and computer simulation model development
- Value added food processing technologies including drying and thermal processing
- Advanced thermal processing technologies for food safety and non-chemical pest control in international trades
- Thermal death kinetics of microorganisms

## EDUCATION

- 1994-1998 Gembloux Agricultural University (Belgium)  
*Ph. D.* in Agricultural and Biological Engineering  
<http://www.fsagx.ac.be/>
- 1983-1986 Zhejiang University (P. R. China)  
*Master degree* in Agricultural Engineering  
<http://www.zju.edu.cn/>
- 1978-1982 Zhejiang University (P. R. China)  
*Bachelor degree* in Mechanical Engineering

## PROFESSIONAL EXPERIENCE

### **RESEARCH**

- 2011-present **Professor**, College of Mechanical and Electronic Engineering  
Northwest A&F University, Yangling, China  
<http://en.nwsuaf.edu.cn/>
- 2005-2011 **Assistant Research Professor**, Department of Biological Systems Engineering  
Washington State University, Pullman, WA  
<http://www.wsu.edu/>
- 2000-2004 **Research Associate**, Department of Biological Systems Engineering  
Washington State University, Pullman, WA
- 1998-1999 **Research Engineer**, Bio-environmental station, INRA, Avignon, France  
<http://www.avignon.inra.fr/>
- 1991-1993 **Lecturer**, Department of Agricultural Engineering  
Zhejiang University, Hangzhou, P. R. China
- 1989-1990 **Visiting Research Fellow**, Department of Physics  
Gembloux Agricultural University, Gembloux, Belgium
- 1986-1989 **Assistant Lecturer**, Department of Agricultural Engineering  
Zhejiang University, Hangzhou, P. R. China

### **RESEARCH GRANTS**

- PI** Northwest A&F University, Yangling, China

- Awarded \$238,000 (RMB1500, 000) by Special Talent Fund of Northwest A&F University (No. Z111021101) (11/23/2011-11/22/2014)

Department of Biological Systems Engineering, Washington State University

- Awarded \$190,374 by a competitive grant from USDA-PMA (No. 2010-343813-21619, PIs: **S. Wang**, T. Davenport and J. Johnson) on 04/03/2010 (10/01/2010-09/30/2012)
- Awarded \$160,889 by a competitive grant from USDA-CSREES (No. 2008-34103-19091, PIs: **S. Wang**, J. Tang and J. Johnson ) on 03/25/2008 (09/01/2008-08/31/2010)
- “Awarded ¥80,000RMB for a seed grant by Yangling International Academy of Modern Agriculture (YIAMA), Northwest A&F University, Yangling, China (PIs: **S. Wang** and W. Guo) on 07/10/2010

**Co-PI**

Department of Biological Systems Engineering, Washington State University

- Awarded \$496,514 entitled “*Factors affecting pasteurization efficacy for salmonella in low-moisture foods*” by a competitive grant from USDA-AFRI (Marks, B.P., Tang, J., Ryser, E.T., **Wang, S.**, and Jeong, S) (01/01/2012-12/31/2014)
- Awarded \$542,824 entitled “Improving Process Validation Methods for Multiple Pasteurization Technologies Applied to Low-Moisture Foods” by a competitive grant from USDA-NIFSI (No. 2011-51110-30994, PI: Marks, B.P., Tang, J., Ryser, E.T., **Wang, S.**, and Jeong, S) on 08/31/11 (WSU: \$181,369, 01/01/2012-12/31/2014)
- Awarded \$30,000 by USDA Special Program on 05/25/2009
- Awarded \$57,220 by Abbott Laboratories, Columbus, OH on 02/25/2008
- Awarded \$335,000 by USDA-NRI on 05/04/2005 (No. 2005-35503-16223)
- Awarded \$445,881 by USDA-CSREES on 06/11/2004 (No. 2004-51102-02204)
- Awarded \$71,846 by Potato Foundation in WA State on 05/20/2004 (No. 13S-3031-4303)
- Awarded \$130,000 by California Department of Food and Agriculture (CDFA) on 01/15/2003 (No. 02-0652)
- Awarded \$30,000 by IMPACT Center Federal Funds on 10/15/2001 (No. 11D-3024-6903)

## RESEARCH PROPOSALS

2010-present Department of Biological Systems Engineering, Washington State University

- Submitted a proposal (\$1,498,776) entitled “*Enhancing Control of Emerging Salmonella Phenotypes and Genotypes in Low-Moisture Foods using Multiple Process Technologies*” as Co-PI (Marks, B.P., Tang, J., Ryser, E.T., Mahdi Saeed, A., **Wang, S.**, and Jeong, S) to USDA-AFRI (06/29/2010)
- Submitted a proposal (\$570,666) entitled “*Novel Postharvest Treatments for Controlling Pathogens in Nuts Using Radio Frequency Energy*” as PI (**S. Wang**, J. Tang, DH Kang, E. Mitcham, and J. Johnson) to USDA-National Integrated Food Safety Initiative (01/19/2010)
- Submitted a proposal (\$299,872) entitled “*Developing Sustainable Approaches for Improved Management and Detection of Angular Leaf Spot in Commercial Strawberry Production*” as Co-PI (N. Peres, W. Turechek, and **S. Wang**) to USDA-Crops at Risk Program (03/22/2010)
- Submit a proposal (\$199,982) entitled “*Thermal Death Kinetics of Salmonella in Low-Moisture High-Fat Foods*” as Co-PI (B. Rasco, J. Tang and **S. Wang**) to ILSI North America Technical Committee on Food Microbiology (04/01/2010)
- Submitted a proposal (\$570,666) entitled “*Novel Postharvest Treatments for Controlling Pathogens in Nuts Using Radio Frequency Energy*” as PI (**S. Wang**, J.

Tang, DH Kang, E. Mitcham, and J. Johnson) to USDA-National Integrated Food Safety Initiative (01/19/2010)

- 1999-2005 Department of Biological Systems Engineering, Washington State University
- Assisted (15% contributions) Dr. Tang in proposal writing, which was awarded \$1.2 million by USDA-IFAFS (04/15/00)
  - Assisted (55% contributions) Dr. Tang in proposal writing, which was awarded \$350,000 by BARD (05/25/01)
  - Assisted (15% contributions) Dr. Tang in proposal writing, which was awarded \$190,000 by USDA- IREECGP (07/15/01)
  - Assisted (25% contributions) Dr. Tang in proposal writing, which was awarded \$23,000 by California Walnut Commission (04/25/01)
  - Assisted (15% contributions) Dr. Tang in proposal writing, which was awarded \$150,000 by USDA-IREECGP (09/01/01)
  - Assisted (45% contributions) Dr. Tang in proposal writing, which was awarded \$25,000 every year by IMPACT Center Federal Funds (2000-2003)

#### **GROUP LEADER**

- 2002-present Department of Biological Systems Engineering, Washington State University
- Assisted Dr. Juming Tang to supervise visiting professors, X. Yin, W. Guo, & Maria Elena Sosa Morales, and Ph.D. students, S. L. Birla and G. Tiwari

#### **TEACHING**

- 2005-present **Assistant Research Professor**, Biological Systems Eng., Washington State Univ.
- Serve as a committee member of 3 PhD students and 1 Master Degree student
  - Assisted to supervise Ph.D. students, G. Tiwari, S. Jiao and B. AlFaifi
  - Taught 3h for 3-credit class BsysE 484/584: *Thermal Processing of Foods*
- 2002-2005 Department of Biological Systems Engineering, Washington State University
- Assisted to supervise Ph.D. student, Sohan L. Birla
  - Provided three technical training courses (4h each) for USDA-ARS in Hilo, HI, Weslaco, TX and Parlier, CA
- 1999-2001 Department of Biological Systems Engineering, Washington State University
- Assisted Dr. Juming Tang to supervise Ph.D. student, K. Luechapattanaporn
  - Assisted Dr. Tang to supervise master student, Y. Rodriguez
- 1998-1999 **Research Engineer**, Bio-environmental station, INRA, Avignon, France
- Assisted Dr. T. Boulard to supervise Ph.D. student, R. Haxaire
- 1991-1993 **Lecturer**, Department of Agricultural Engineering  
Zhejiang Agricultural University, Hangzhou, P. R. China
- Classes taught: *Instrumentation for environmental physiology* for undergraduate students
  - Classes taught: *Principles of environmental engineering* for graduate students
- 1986-1989 **Assistant Lecturer**, Department of Agricultural Engineering  
Zhejiang Agricultural University, Hangzhou, P. R. China
- Classes taught: *Principles of Agricultural and Bioenvironmental Engineering* for undergraduate students
  - Supervised eleven senior undergraduates in their graduation projects

#### **INSTRUMENTATION**

Experienced in using: 915 MHz microwave and 27 MHz radio frequency (RF) heating systems, thermal imaging camera, Campbell and Delta-T data acquisition systems, HP

network and Impedance analyzers, sonic anemometer, fiber optical temperature measurement system, thermocouples, and thermal resistance sensors, and solar radiation measurement facilities

### **COMPUTER SKILL**

Systems: UNIX, Windows

Languages: FORTRAN, BASIC, ALGOL, HTML, JAVA

Applications: Sigma Plot, MS Office, WordPerfect, Quattro Pro, MatLab, FEMLAB, Paintbrush, CFD2000, TRNSYS, Flowchart

### **CLASSES AUDITED AT WSU**

Spring, 2000. ENTOM 340: Agricultural Entomology

Fall, 2000. EE 331: Electromagnetic Fields and Waves

Spring, 2001. CPTS 253: JAVA Program

Fall, 2001. BSYSE 584: Thermal Processing of Foods

Fall, 2002. BSYSE 581: Advanced Physical Properties of Foods

### **PROFESSIONAL AFFILIATION**

1. American Society of Agricultural and Biological Engineers (ASABE)
2. Institute of Food Technologists (IFT)
3. International Microwave Power Institute (IMPI)
4. Association of Overseas Chinese Agricultural, Biological, and Food Engineers (AOCABFE)

### **SERVICE IN PROFESSIONAL ASSOCIATION**

- 2012- Present Division Editor of International Journal of Agricultural and Biological Engineering (IJABE)
- 2008-2011 Associate Editor of International Journal of Agricultural and Biological Engineering (IJABE)
- 2007-Present Associate Editor of Transactions of the ASABE
- 2011-2012 FPE-703 Food Processing Committee Vice Chair of ASABE
- 2010-2011 FPE-703 Food Processing Committee Secretary of ASABE
- 2007-2009 Board member at Large of AOCABFE  
Technology Cooperation Director of AOCABFE  
FPE-703 Food Processing Committee member of ASABE
- 2007 Co-organized a USDA Regional Project (NE-1008) meeting on postharvest technologies in the Tri-Cities on June 6 and 7. Attendees from nine different states, USDA-ARS, and Japan visited potato, cherry, hop processing/packaging plants, and WSU viticulture research fields and a winery in central Washington.
- 2005-2007 FPE04/041 Publication Committee member of ASABE  
Editor-in-chief of IMPACT Newsletter of AOCABFE  
<http://www.aoc-web.org/newsletter.htm>
- 2003-2005 Treasurer of AOCABFE
- 1997-1998 Editor-in-chief of a Newsletter (LBTX) for Chinese Student and Scholar Association in Belgium

### **REVIEWER**

Technical reviewer for the USDA-SBIR proposals in 2005.

Technical reviewer for the following journals (total review paper numbers):

*Acta Horticulture (1)*

*Applied Engineering in Agriculture (1)*

*Bioresource Technology* (1)  
*Biosystems Engineering* (11)  
*Computers and Electronics in Agriculture* (2)  
*Food Research International* (1)  
*Fruits* (1)  
*HortTechnology* (1)  
*International Agricultural Engineering Journal* (1)  
*International Journal of Agricultural and Biological Engineering* (3)  
*International Journal of Food Microbiology* (1)  
*Journal of Agricultural Engineering Research* (2)  
*Journal of Agricultural Science and Technology* (1)  
*Journal of Economic Entomology* (1)  
*Journal of Food Engineering* (17)  
*Journal of Food Science* (7)  
*Journal of Zhejiang University Science* (2)  
*Latin American Applied Research Journal* (1)  
*Postharvest Biology and Technology* (8)  
*Transactions of the ASABE* (14)

#### **AWARDS AND HONOR**

2011 Selected as Member of "the Hundred Talents Program of Shaanxi Province"  
2011 Invited keynote speaker on "Applications of radio frequency treatments for disinfecting agricultural products" at Technology Development Conference on Agricultural and Food Safety organized by Chinese Bioresource Application Association on Sept. 03, 2011, Taipei, Taiwan.  
2010 Chaired one session of Process Development in 44<sup>th</sup> International Microwave Power Institute Symposium, July 14-16, 2010, Denver, CO.  
2009 Chaired two sessions of Food Technology in 43<sup>rd</sup> International Microwave Power Institute Symposium, July 8-10, 2009, Washington D.C.  
2009 First Place Paper Award in Food Engineering Division of IFT (co-author)  
2006-2011 Chaired one session in microwave and radio frequency heating in agricultural and food processing (FPE-12) in ASABE Annual International Meetings each year  
2004 Chaired two sessions in physical properties and food safety in 1<sup>st</sup> International Conference of CIGR, Section VI: Bioproducts processing and Food Safety, October 11-14, 2004, Beijing, China.  
**2004 ASABE Superior Paper Award (top 2.5%) from American Society of Agricultural and Biological Engineers.**  
[http://www.asabe.org/awards/paper/2004\\_Superior\\_Paper\\_Winners.htm](http://www.asabe.org/awards/paper/2004_Superior_Paper_Winners.htm)  
2002 Chaired a session in post-harvest and food engineering in 7<sup>th</sup> IAEC, Wuxi, China, November 28-30, 2002.  
**2000 Best Paper Award (top one each year) from American Society for Plasticulture.**  
[http://www.plasticulture.org/about\\_awards.htm](http://www.plasticulture.org/about_awards.htm)  
1998 Grand distinction for my original Ph.D. dissertation received from Gembloux Agricultural University (Belgium)  
1994-1998 Awarded a scholarship for my Ph.D. study from Gembloux Agricultural University (Belgium)  
1991 Awarded the 3rd Prize for the paper published in Bull. Rech. Agron. Gembloux, 25(4), 1990" by the Zhejiang Committee of Science and Technology (P. R. China)  
1989-1990 Awarded a scholarship for the cooperative project between Belgium and China from Belgium French Community

## **PUBLICATIONS**

### ***Books***

Tang J., Mitcham E., **Wang S.**, Lurie S. [Eds.], 2007. Heat Treatments for Postharvest Pest Control: Theory and Practice. CABI Publishing, Oxon, UK. 368pp.

### ***Book Chapters***

**Wang S.**, 2012. Microwave processing. In: D-W. Sun [Eds.], *Handbook of Food Safety Engineering*. Wiley-Blackwell, pp371-393.

Tang J., **Wang S.**, Armstrong J.W., 2007. Thermal treatment protocol development and scale-up. In: Tang J., Mitcham E., **Wang S.**, Lurie S. [Eds.], 2007. *Heat Treatments for Postharvest Pest Control: Theory and Practice*. CABI Publishing, Oxon, UK, pp. 291-310.

**Wang S.**, Tang J., Hansen J.D., 2007. Experimental and simulation methods of insect thermal death kinetics. In: Tang J., Mitcham E., **Wang S.**, Lurie S. [Eds.], 2007. *Heat Treatments for Postharvest Pest Control: Theory and Practice*. CABI Publishing, Oxon, UK, pp. 105-132.

Tang J., **Wang S.**, Johnson J.A., 2007. Biology and thermal death kinetics of selected insects. In: Tang J., Mitcham E., **Wang S.**, Lurie S. [Eds.], 2007. *Heat Treatments for Postharvest Pest Control: Theory and Practice*. CABI Publishing, Oxon, UK, pp. 133-161.

Tang J., **Wang S.**, 2007. Temperature measurement. In: Tang J., Mitcham E., **Wang S.**, Lurie S. [Eds.], 2007. *Heat Treatments for Postharvest Pest Control: Theory and Practice*. CABI Publishing, Oxon, UK, pp. 56-78.

Tang J., **Wang S.**, 2007. Fundamental heat transfer theory for thermal treatments. In: Tang J., Mitcham E., **Wang S.**, Lurie S. [Eds.], 2007. *Heat Treatments for Postharvest Pest Control: Theory and Practice*. CABI Publishing, Oxon, UK, pp. 27-55.

Komarov, V., **Wang S.**, Tang J., 2005. Permittivity and measurement. In: K. Chang (eds.). *The Wiley Encyclopedia of RF and Microwave Engineering*, John Wiley & Sons, Inc., New York, Vol. 4, pp. 3693-3711.

Tang J., **Wang S.**, 2005. Radio frequency treatments for insect control in fruits and nuts - principles and applications. In: R. Dris (Eds), *Crops: Growth, Quality and Biotechnology*. WFL Publisher, Helsinki, Finland, P967-990.

**Wang S.**, Tang J., 2004. Radio frequency post-harvest quarantine and phytosanitary treatments to control insect pests in fruits and nuts. In: R. Dris and S.M. Jain (Eds), *Production practices and quality assessment of food crops*, Kluwer Academic Publishers, The Netherlands, P17-53.

**Wang S.**, Tang J., Younce F., 2003. Temperature measurement. In: D. R. Heldman (eds.). *Encyclopedia of Agricultural, Food, and Biological Engineering*, Marcel Dekker. New York. P987-993.

### ***Refereed Journals:***

Zhu X., Guo W., Wu X., **Wang S.**, 2012. Dielectric properties of chestnut flour relevant to drying with radio-frequency and microwave energy *Journal of Food Engineering*, in review.

Guo W., Wang J., Zhu X., **Wang S.**, 2012. Sensing moisture content in buckwheat from dielectric properties, temperature and bulk density *Journal of Food Engineering*, in review.

AlFaifi B., **Wang S.**, Tang J., 2012. Dielectric properties of dried fruits relevant to radio frequency and microwave disinfestation treatments. *Biosystems Engineering*, in review.

Turechek W.W., **Wang S.**, Tiwari G., Peres N.A. 2012. Investigating alternative strategies for managing bacterial angular leaf spot in strawberry nursery production. *International Journal of Fruit Science*, accepted.

Yang C., Guo W., Li Q., **Wang S.**, 2012. Research system for thermal resistant characteristics of pests based on AVR single-chip microcomputer. *Transactions of Chinese Society of Agricultural Engineering*, in press (in Chinese).

Wang Y., Zhang L., **Wang S.**, Tang J., Li Y., 2012. Water desorption and adsorption isotherms of macadamia nut shell. *Transactions of the Chinese Society of Agricultural Machinery*, in review (in Chinese).

- Wang Y., Zhang L., **Wang S.**, Tang J., Li Y., 2012. Water desorption and adsorption isotherms of macadamia nut kernel. *Transactions of the Chinese Society of Agricultural Engineering*, in review (in Chinese).
- Wang Y., Zhang L., Gao M., Tang J., **Wang S.**, 2012. Temperature- and moisture-dependent dielectric properties of macadamia nut kernels. *Food and Bioprocess Technology*, accepted.
- Gao M., Tang J., Johnson J.A., **Wang S.**, 2012. Dielectric properties of almond shells in the development of radio frequency and microwave pasteurization, *Journal of Food Engineering*, accepted.
- Villa-Rojas R., Tang J., **Wang S.\***, Gao M., Kang D-H., Mah J-H., Gray P., Sosa-Morales M.E., Lopez-Malo A., 2012. Thermal inactivation of *Salmonella* Enteritidis PT 30 in almond kernels as influenced by water activity. *Journal of Food Protection*, accepted.
- Wu Z., Zhang M., **Wang S.**, 2012. Effects of high-pressure argon and nitrogen treatments on respiration, browning and antioxidant potential of minimally processed pineapples during shelf life. *Journal of the Science of Food and Agriculture*, in press.
- Zhang J., **Wang S.**, Xu B., Gao M., 2012. Effect of alternating magnetic field treatments on enzymatic parameters of cellulose. *Journal of the Science of Food and Agriculture*, in press.
- Zhang M., Zhou Y., **Wang S.**, Tang J., 2012. Effects of thermal treatment on color and texture of *Typha latifolia* L. *International Agrophysics*, accepted.
- Zhang P., Zhang M., **Wang S.**, 2012. Effect of 1-MCP treatment on post-harvest quality of green asparagus during cold storage. *International Agrophysics*, accepted.
- Neven L.G., **Wang S.**, Tang J., 2012. An improved system to assess insect tolerance to heated controlled atmosphere quarantine treatment. *Entomologia Experimentalis et Applicata*, 143(1): 95-100.
- Jiao S., Johnson J.A., Fellman J.K., Mattinson D.S., Tang J., Davenport T.L., **Wang S.**, 2012. Evaluating the storage environment in hypobaric chambers used for disinfesting fresh fruits. *Biosystems Engineering*, 111(3): 271-279.
- Jiao S., Tang J., Johnson J.A., **Wang S.**, 2012. Industrial-scale radio frequency treatments for insect control in lentils. *Journal of Stored Products Research*, 48: 143-148.
- Wu Z.S., Zhang M., **Wang S.**, 2012. Effects of high pressure argon treatments on the quality of fresh-cut apples at cold storage. *Food Control*, 23: 120-127.
- Lagnika C., Zhang M., **Wang S.**, 2011. Effect of high argon pressure and modified atmosphere packaging on the white mushroom (*Agaricus bisporus*) physico-chemical and microbiological properties. *Journal of Food and Nutrition Research*, 50(3):167-176.
- Jiao S., Tang J., Johnson J.A., Tiwari G., **Wang S.**, 2011. Determining radio frequency heating uniformity in mixed beans for disinfestations. *Transactions of the ASABE*, 54(5): 1847-1855.
- Guo W., Wu X., Zhu X., **Wang S.**, 2011. Temperature-dependent permittivities of chestnut and chestnut weevil from 10 to 4500 MHz. *Biosystems Engineering*, 110(3): 340-347.
- Guo W., Liu Y., Zhu X., **Wang S.**, 2011. Dielectric properties of honeys adulterated with sucrose syrup. *Journal of Food Engineering*, 107: 1-7.
- Wang Y., Li Y., **Wang S.**, Zhang L., Gao M., Tang J., 2011. Review of dielectric drying of foods and agricultural products. *International Journal of Agricultural and Biological Engineering*, 4(1): 1-19.
- Tiwari G., **Wang S.**, Tang J., Birla S.L., 2011. Computer simulation model development and validation of radio frequency (RF) heating of dry food materials. *Journal of Food Engineering*, 105(1): 48-55.
- Tiwari G., **Wang S.**, Tang J., Birla S.L., 2011. Analysis of radio frequency (RF) power distribution in dry food materials. *Journal of Food Engineering*, 104(4): 548-556.
- Liu Y., Tang J., Mao Z., Mah J., Jiao S., **Wang S.**, 2011. Quality and mold control of enriched white bread by combined radio frequency and hot air treatment. *Journal of Food Engineering*, 104(4): 492-498.

- Jiao S., Johnson J.A., Tang J., Tiwari G., **Wang S.**, 2011. Dielectric properties of cowpea weevil, black eyed peas and mung beans with respect to the development of radio frequency heat treatments. *Biosystems Engineering*, 108(3): 280-291.
- Gao M., Tang J., Villa-Rojas R., Wang Y., **Wang S.**, 2011. Pasteurization process development for controlling Salmonella in in-shell almonds using radio frequency energy. *Journal of Food Engineering*, 104(2): 299-306.
- Chen S., Zhang M., **Wang S.**, 2011. Effect of initial hermetic sealing on quality of 'Kyoho' grape during storage. *Postharvest Biology and Technology*, 59(2): 194-199.
- Guo W., Liu Y., Zhu X., **Wang S.**, 2011. Temperature-dependent dielectric properties of honeys associated with dielectric heating. *Journal of Food Engineering*, 102(3): 209-216.
- Liu J., Zhang M., **Wang S.**, 2010. Processing characteristics and flavor of full lotus root powder beverage. *Journal of the Science of Food and Agriculture*, 90(14): 2482-2489.
- Gao M., Tang J., Wang Y., Powers J., **Wang S.**, 2010. Almond quality as influenced by radio frequency heat treatments for disinfestations. *Postharvest Biology and Technology*, 58(3): 234-240.
- Jing W., Tu K., Shao X., Su Z., Zhao Y., **Wang S.** and Tang J. 2010. Effect of postharvest short hot-water rinsing and brushing treatment on decay and quality of strawberry fruit. *Journal of Food Quality*, 33: 262-272.
- Chen S.J., Zhang M., **Wang S.J.**, 2010. Physiological and quality responses of Chinese 'Suli' pear fruit to 1-MCP vacuum infiltration treatment. *Journal of the Science of Food and Agriculture*, 90: 1317-1322.
- Guo W., Zhu X., Liu H., Yue R., **Wang S.**, 2010. Effects of milk concentration and freshness on microwave dielectric properties. *Journal of Food Engineering*, 99(3): 344-350.
- Wang S.**, Tiwari G., Jiao S., Johnson J.A., Tang J., 2010. Developing postharvest disinfestation treatments for legumes using radio frequency energy. *Biosystems Engineering*, 105(3): 341-349.
- Lu D.H., Zhang M., **Wang S.J.**, Cai J.L., Zhou X., Zhu C.P., 2010. Nutritional characterization and changes in quality of *Salicornia bigelovii* Torr. during storage. *LWT - Food Science and Technology*, 43: 519-524.
- Duan X., Zhang M., Mujumdar A.S., **Wang S.**, 2010. Microwave freeze drying of sea cucumber (*S. japonicus*). *Journal of Food Engineering*, 96: 491-497.
- Guo W., **Wang S.**, Tiwari G., Johnson J.A., Tang J., 2010. Temperature and moisture dependent dielectric properties of legume flours associated with dielectric heating. *LWT - Food Science and Technology*, 43(2): 193-201.
- Liu Y., Tang J., Mao Z., Mah J., **Wang S.**, 2009. Comparison between combined radio frequency and hot air treatment and hot air treatment on bread fresh-keeping. *Transactions of the CSAE*, 25(9): 323-328 (in Chinese).
- Lu D.H., Zhang M., **Wang S.J.**, Cai J.L., Zhu C.P., Zhou X., 2009. Effects of modified atmosphere packaging with different sizes of silicon gum film windows on *Salicornia bigelovii* Torr. storage. *Journal of the Science of Food and Agriculture*, 89: 1559-1564.
- Sosa-Morales M.E., Tiwari G., **Wang S.**, Tang J., Lopez-Malo A. and Garcia H.S., 2009. Dielectric heating as a potential post-harvest treatment of disinfesting mangoes. II: Development of RF-based protocols and quality evaluation of treated fruits. *Biosystems Engineering*, 103(3): 287-296.
- Sosa-Morales M.E., Tiwari G., **Wang S.**, Tang J., Lopez-Malo A. and Garcia H.S., 2009. Dielectric heating as a potential post-harvest treatment of disinfesting mangoes. I: Relation between dielectric properties and ripening. *Biosystems Engineering*, 103(3): 297-303.
- Wang S.**, Johnson J.A., Hansen J.D., Tang J., 2009. Determining thermotolerance of fifth-instar *Cydia pomonella* (L.) (Lepidoptera: Tortricidae) and *Amyelois transitella* (Walker) (Lepidoptera: Pyralidae) by three different methods. *Journal of Stored Products Research*, 45(3): 184-189.
- Wang Y., Tang J., Rasco B., **Wang S.**, Alshami A.A., Kong F., 2009. Using whey protein gel as a model food to study the dielectric heating of salmon fillets. *LWT - Food Science and Technology*, 42: 1174-1178.

- Guo W., Tiwari G., Tang J., **Wang S.**, 2008. Frequency, moisture and temperature dependent dielectric properties of chickpea flour. *Biosystems Engineering*, 101(2): 217-224.
- Li W., Zhang M., **Wang S.**, 2008. Effect of three-stage hypobaric storage on membrane lipid peroxidation and activities of defense enzyme in green asparagus. *LWT - Food Science and Technology*, 41(10): 2175-2181.
- Birla S.L., **Wang S.**, Tang J., Tiwari G., 2008. Characterization of radio frequency heating of fresh fruits influenced by dielectric properties. *Journal of Food Engineering*, 89(4): 390-398.
- Wang S.**, Yue J., Chen B., Tang J., 2008. Treatment design of radio frequency heating based on insect control and product quality. *Postharvest Biology and Technology*, 49(3): 417-423.
- Tiwari G., **Wang S.**, Birla S.L., Tang J., 2008. Effect of water assisted radio frequency heat treatment on the quality of 'Fuyu' persimmons. *Biosystems Engineering*, 100(2): 227-234.
- Wang S.**, Luechapattanaorn K., Tang J., 2008. Experimental methods for evaluating heating uniformity in radio frequency systems. *Biosystems Engineering*, 100(1): 58-65.
- Li T., Zhang M., **Wang S.**, 2008. Effects of temperature on *Agrocybe chaxingu* quality stored in modified atmosphere packages with silicon gum film windows. *LWT - Food Science and Technology*, 41(6): 965-973.
- An J., Zhang M., **Wang S.**, Tang J., 2008. Physical, chemical and microbiological changes in stored green asparagus spears as affected by coating of silver nanoparticles-PVP. *LWT - Food Science and Technology*, 41(6): 1100-1107.
- Wang Y., Tang J., Rasco B., Kong F., **Wang S.**, 2008. Dielectric properties of salmon fillets as a function of temperature and composition. *Journal of Food Engineering*, 87(2): 236-246.
- Birla S.L., **Wang S.**, Tang J., 2008. Computer simulation of radio frequency heating of model fruit immersed in water. *Journal of Food Engineering*, 84: 270-280.
- Zhang M., Zhan Z., **Wang S.**, Tang J., 2008. Extending shelf-life of asparagus spears by pressured mixed gases of argon and xenon. *LWT - Food Science and Technology*, 41(4): 686-691.
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