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Education:

- Ph.D. in Biosystems Engineering, Michigan State University, 2007
- M.S. in Measuring and Testing Technology and Instruments, Tianjin University, China, 2003
- B.S. in Measuring and Control Technology and Instruments, Tianjin University, China, 2000

Research Interests:

- Sensing, control, and automation technologies
- Hyperspectral and multispectral imaging for food safety and quality
- Raman, fluorescence, visible, and NIR spectroscopy and imaging
- Real-time machine vision for automated food processing
- Chemometrics, image processing, and pattern recognition
- Optical properties of food and agricultural products
- Modeling and simulation of light interactions with biological materials

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Honors and Awards:

- ASABE Annual International Meeting Paper Award. 2016
- ASABE Superior Paper Award. 2015
- USDA ARS Beltsville Area Poster Day Award (2nd place). 2014
- ASABE Superior Paper Award. 2012

Patent:

1. Chao, K., Kim, M. S., and **Qin, J.** Line-scan Raman imaging method and apparatus for sample evaluation (filed 11/1/2013).

Publications:

Book Chapters:

4. **Qin, J.**, Chao, K., and Kim, M. S. 2016. Chapter 6: Introduction to Raman chemical imaging technology. In *Computer Vision Technology for Food Quality Evaluation (2nd Edition)* (Ed. Da-Wen Sun), 141-171. San Diego, CA, USA: Elsevier.
3. **Qin, J.**, Chao, K., and Kim, M. S. 2016. Chapter 14: Raman scattering for food quality and safety assessment. In *Light Scattering Technology for Food Property, Quality and Safety Assessment* (Ed. Renfu Lu), 387-428. Boca Raton, FL, USA: Taylor & Francis.
2. **Qin, J.** 2012. Chapter 2: Hyperspectral and multispectral imaging in the food and beverage industries. In *Computer Vision Technology in the Food and Beverage Industries* (Ed. Da-Wen Sun), 27-63. Cambridge, UK: Woodhead Publishing Ltd.
1. **Qin, J.** 2010. Chapter 5: Hyperspectral imaging instruments. In *Hyperspectral Imaging for Food Quality Analysis and Control* (Ed. Da-Wen Sun), 127-172. San Diego, CA, USA: Academic Press, Elsevier.

Peer Reviewed Journal Articles:

51. **Qin, J.**, Kim, M. S., Chao, K., Chan D. E., Stephen R. Delwiche, and Cho, B. 2017. Line-scan hyperspectral imaging techniques for food safety and quality applications. *Applied Sciences*, 7(2), 125.
50. Dhakal, S., Chao, K., **Qin, J.**, Kim, M. S., and Chan D. E. 2017. Identification and evaluation of composition in food powder using point-scan Raman spectral imaging. *Applied Sciences*, 7(1), 1.
49. **Qin, J.**, Kim, M. S., Chao, K., Schmidt, W. F., Dhakal, S., Cho, B., Peng, Y., and Huang, M. 2017. Subsurface inspection of food safety and quality using line-scan spatially offset Raman spectroscopy technique. *Food Control*, 34(2), 152-161.
48. **Qin, J.**, Kim, M. S., Chao, K., Dhakal, S., Lee, H., Cho, B., and Mo, C. 2017. Detection and quantification of adulterants in milk powder using a high-throughput Raman chemical imaging technique. *Food Additives & Contaminants: Part A*, 34(2), 152-161.
47. **Qin, J.**, Kim, M. S., Chao, K., Schmidt, W. F., Cho, B., and Stephen R. Delwiche. 2017. Line-scan Raman imaging and spectroscopy platform for surface and subsurface evaluation of food safety and quality. *Journal of Food Engineering*, 198, 17-27.
46. Broadhurst, C. L., Schmidt, W. F., Kim. M. S., Nguyen, J. K., **Qin, J.**, Chao, K., Bauchan, G. L., and Shelton, D. R. 2016. Gradient temperature Raman spectroscopy of oleic and linoleic acids from -100 to 50 C. *Lipids*, 51, 1289-1302.
45. Huang, M., He, C., Zhu, Q., and **Qin, J.** 2016. Maize seed variety classification using the integration of spectral and image features combined with feature transformation based on hyperspectral imaging. *Applied Sciences*, 6, 183.
44. Broadhurst, C. L., Schmidt, W. F., Kim. M. S., Nguyen, J. K., **Qin, J.**, Chao, K., Bauchan, G. L., and Shelton, D. R. 2016. Continuous gradient temperature Raman spectroscopy of N-6DPA and DHA from -100 to 20 C. *Chemistry and Physics of Lipids*, 200, 1-10.
43. Dhakal, S., Chao, K., Schmidt, W. F., **Qin, J.**, Kim, M. S., and Chan D. E. 2016. Evaluation of turmeric powder adulterated with metanil yellow using FT-Raman and FT-IR spectroscopy. *Foods*, 5(2), 36.
42. Dhakal, S., Chao, K., **Qin, J.**, Kim, M. S., and Chan D. E. 2016. Raman spectral imaging for quantitative contaminant evaluation in skim milk powder. *Journal of Food Measurement and Characterization*, 10(2), 374-386.
41. Dhakal, S., Chao, K., **Qin, J.**, Kim, M. S., Schmidt, W. F., and Chan D. E. 2016. Parameter selection for Raman spectroscopy-based detection of chemical contaminants in food powders. *Transactions of the ASABE*, 59(2), 751-763.

40. Huang, M., Kim, M. S., Delwiche, S. R., Chao, K., **Qin, J.**, Mo, C., Esquerre, C., and Zhu, Q. 2016. Quantitative analysis of melamine in milk powders using nearinfrared hyperspectral imaging and band ratio. *Journal of Food Engineering*, 181, 10-19.
39. Huang, M., Kim. M. S., Chao, K., **Qin, J.**, Mo, C., Esquerre, C., Delwiche, S. R., and Zhu, Q. 2016. Penetration depth measurement of near-infrared hyperspectral imaging light for milk powder. *Sensors*, 16(4), 441.
38. Lim, J., Kim, G., Mo, C., Kim M. S., Chao, K., **Qin, J.**, Fu, X., Baek, I., and Cho, B. 2016. Detection of melamine in milk powders using near-infrared hyperspectral imaging combined with regression coefficient of partial least square regression model. *Talanta*, 151, 183-191.
37. **Qin, J.**, Kim, M. S., Schmidt, W. F., Cho, B., Peng, Y., and Chao, K. 2016. A line-scan hyperspectral Raman system for spatially offset Raman spectroscopy. *Journal of Raman Spectroscopy*, 47(4), 437-443.
36. **Qin, J.**, Chao, K., Kim, M. S., and Cho, B. 2016. Line-scan macro-scale Raman chemical imaging for authentication of powdered foods and ingredients. *Food and Bioprocess Technology*, *9*(1), 113-123.
35. Huang, M., Wang, Q., Zhu, Q., **Qin, J.**, and Huang, G. 2015. Review of seed quality and safety tests using optical sensing technologies. *Seed Science and Technology*, 43(3), 337-366.
34. Schmidt, W. F., Kim. M. S., Nguyen, J. K., **Qin, J.**, Chao, K., Broadhurst, C. L., and Shelton, D. R. 2015. Continuous gradient temperature Raman spectroscopy identifies flexible sites in proline and alanine peptides. *Vibrational Spectroscopy*, 80, 59-65.
33. Zhao, J., Peng, Y., **Qin, J.**, and Chao, K. 2015. Detection of melamine mixed into milk powder using Raman scattering spectroscopy. *International Agricultural Engineering Journal*, 24(1), 64-69.
32. Tao, F., Peng, Y., Gomes, C. L., Chao, K., and **Qin, J.** 2015. A comparative study for improving prediction of total viable count in beef based on hyperspectral scattering characteristics. *Journal of Food Engineering*, 162, 38-47.
31. Schmidt, W. F., Broadhurst, C. L., **Qin, J.**, Lee, H., Nguyen, J. K., Chao, K., Hapeman, C. J., Shelton, D. R., and Kim. M. S. 2015. Temperature dependent Raman spectroscopy of melamine and structural analogs and detection in milk powder. *Applied Spectroscopy,* 69(3), 398-406.
30. **Qin, J.**, Chao, K., Cho, B., Peng, Y., and Kim, M. S. 2014. High-throughput Raman chemical imaging for rapid evaluation of food safety and quality. *Transactions of the ASABE,* 57(6), 1783-1792. (**Won ASABE Superior Paper Award**)
29. **Qin, J.**, Chao, K., and Kim, M. S. 2014. A line-scan hyperspectral system for high-throughput Raman chemical imaging. *Applied Spectroscopy*, 68(6), 692-695.
28. **Qin, J.**, Chao, K., Kim, M. S., Lee, H, and Peng, Y. 2014. Development of a Raman chemical imaging detection method for authenticating skim milk powder. *Journal of Food Measurement and Characterization*, 8(2), 122-131.
27. Kim, D. G., Burks, T. F., Ritenour, M. A., and **Qin, J.** 2014. Citrus black spot detection using hyperspectral imaging. *International Journal of Agricultural and Biological Engineering*, 7(6), 20-27.
26. Schmidt, W. F., Hapeman, C. J., McConnell, L. L., Mookherji, S., Rice, C. P., Nguyen, J. K., **Qin, J.**, Lee, H., Chao, K., and Kim, M. S. 2014. Temperature-dependent Raman spectroscopic evidence of and molecular mechanism for irreversible isomerization of b-endosulfan to a-endosulfan. *Journal of Agricultural and Food Chemistry*, 62(9), 2023-2030.
25. Fu, X., Kim, M. S., Chao, K., **Qin, J.**, Lim, J., Lee, H., Garrido-Varo, A., Perez-Marin, D., and Ying, Y. 2014. Detection of melamine in milk powders based on NIR hyperspectral imaging and spectral similarity analyses. *Journal of Food Engineering*, 124, 97-104.
24. Dhakal, S., Li, Y., Peng, Y., Chao, K., **Qin, J.**, and Guo L. 2014. Prototype instrument

development for non-destructive detection of pesticide residue in apple surface using Raman technology. *Journal of Food Engineering*, 123, 94-103.

23. **Qin, J.**, Chao, K., Kim, M. S., Lu, R., and Burks, T. F. 2013. Hyperspectral and multispectral imaging for evaluating food safety and quality. *Journal of Food Engineering*, 118(2), 157-171.
22. **Qin, J.**, Chao, K., and Kim, M. S. 2013. Simultaneous detection of multiple adulterants in dry milk using macro-scale Raman chemical imaging. *Food Chemistry*, 138(2-3), 998-1007.
21. Niphadkar, N. P., Burks, T. F., **Qin, J.**, and Ritenour, M. A. 2013. Edge effect compensation for citrus canker lesion detection due to light source variation - a hyperspectral imaging application. *Agricultural Engineering International: CIGR Journal*, 15(4), 314-327.
20. Niphadkar, N. P., Burks, T. F., **Qin, J.**, and Ritenour, M. A. 2013. Estimation of citrus canker lesion size using hyperspectral reflectance imaging. *International Journal of Agricultural and Biological Engineering*, 22(3), 41-51.
19. **Qin, J.**, Chao, K., and Kim, M. S. 2012. Nondestructive evaluation of internal maturity of tomatoes using spatially offset Raman spectroscopy. *Postharvest Biology and Technology*, 71, 21-31.
18. **Qin, J.**, Burks, T. F., Zhao, X., Niphadkar, N., and Ritenour, M. A. 2012. Development of a two-band spectral imaging system for real-time citrus canker detection. *Journal of Food Engineering*, 108(1), 87-93.
17. **Qin, J.**, Burks, T. F., Zhao, X., Niphadkar, N., and Ritenour, M. A. 2011. Multispectral detection of citrus canker using hyperspectral band selection. *Transactions of the ASABE*, 54(6), 2331-2341.
16. **Qin, J.**, Chao, K., and Kim, M. S. 2011. Investigation of Raman chemical imaging for detection of lycopene changes in tomatoes during postharvest ripening. *Journal of Food Engineering*, 107(3-4), 277-288.
15. **Qin, J.**, Chao, K., Kim, M. S., Kang, S., and Jun, W. 2011. Detection of organic residues on poultry processing equipment surfaces by LED-induced fluorescence imaging. *Applied Engineering in Agriculture*, 27(1), 153-161. (**Won ASABE Superior Paper Award**)
14. **Qin, J.**, Chao, K., and Kim, M. S. 2010. Raman chemical imaging system for food safety and quality inspection. *Transactions of the ASABE*, 53(6), 1873-1882.
13. Zhao, X., Burks, T. F., **Qin, J.**, and Ritenour, M. A. 2010. Effect of fruit harvest time on citrus canker detection using hyperspectral reflectance imaging. *Sensing and Instrumentation for Food Quality and Safety*, 4(3), 126-135.
12. Zhao, X., Burks, T. F., **Qin, J.**, and Ritenour, M. A. 2009. Digital microscopic imaging for citrus peel disease classification using color texture features. *Applied Engineering in Agriculture*, 25(5), 769-776.
11. Kim, D. G., Burks, T. F., Schumann, A. W., Zekri, M., Zhao, X., and **Qin, J.** 2009. Detection of citrus greening using microscopic imaging. *Agricultural Engineering International: CIGR Journal*, Vol. XI, Manuscript 1194.
10. Kim, D. G., Burks, T. F., **Qin, J.**, and Bulanon, D. M. 2009. Classification of grapefruit peel diseases using color texture feature analysis. *International Journal of Agricultural and Biological Engineering*, 2(3), 41-50.
9. **Qin, J.** and Lu, R. 2009. Monte Carlo simulation for quantification of light transport features in apples. *Computers and Electronics in Agriculture*, 68(1), 44-51.
8. **Qin, J.**, Lu, R., and Peng, Y. 2009. Prediction of apple internal quality using spectral absorption and scattering properties. *Transactions of the ASABE*, 52(2), 499-507.
7. **Qin, J.**, Burks, T. F., Ritenour, M. A., and Bonn, W. G. 2009. Detection of citrus canker using hyperspectral reflectance imaging with spectral information divergence. *Journal of Food Engineering*, 93(2), 183-191.
6. **Qin, J.**, Burks, T. F., Kim, M. S., Chao, K., and Ritenour, M. A. 2008. Citrus canker detection using hyperspectral reflectance imaging and PCA-based image classification method.

Sensing and Instrumentation for Food Quality and Safety, 2(3), 168-177.

5. **Qin, J.** and Lu, R. 2008. Measurement of the optical properties of fruits and vegetables using spatially resolved hyperspectral diffuse reflectance imaging technique. *Postharvest Biology and Technology*, 49(3), 355-365.
4. **Qin, J.** and Lu, R. 2007. Measurement of the absorption and scattering properties of turbid liquid foods using hyperspectral imaging. *Applied Spectroscopy*, 61(4), 388-396.
3. **Qin, J.** and Lu, R. 2006. Hyperspectral diffuse reflectance for rapid, noncontact measurement of the optical properties of turbid materials. *Applied Optics*, 45(32), 8366-8373.
2. **Qin, J.** and Lu, R. 2005. Detection of pits in tart cherries by hyperspectral transmission imaging. *Transactions of the ASABE*, 48(5), 1963-1970.
1. **Qin, J.**, Liu, W., Zhang, S., Ran, D., and Xu, K. 2003. COD rapid on-line analysis apparatus based on virtual instrument platform, *Computers and Applied Chemistry*, 20(4), 460-462. (In Chinese)

Conference Proceedings:

53. **Qin, J.**, Kim, M. S., Chao, K., Schmidt, W. F., and Delwiche, S. R. 2016. Surface and subsurface inspection of food safety and quality using a line-scan Raman system. ASABE Paper No. 162460315. 2016 ASABE Annual International Meeting, Orlando, FL. USA. **(Won ASABE Annual International Meeting Paper Award)**
52. **Qin, J.**, Kim, M. S., Chao, K., Dhakal, S., and Lee, H. 2016. Detecting adulterants in milk powder using high-throughput Raman chemical imaging. ASABE Paper No. 162460307. 2016 ASABE Annual International Meeting, Orlando, FL. USA.
51. Zhai, C., Peng, Y., Li, Y., Yang, Y., Chao, K., and **Qin, J.** 2016. Nondestructive detection of carbendazim residue in apples by using surface-enhanced Raman spectroscopy. ASABE Paper No. 162460871. 2016 ASABE Annual International Meeting, Orlando, FL. USA.
50. Wei, W., Peng, Y., Li, P., Chao, K., and **Qin, J.** 2016. Nondestructive detection of meat freshness using lightweight device based a ring light source structure. ASABE Paper No. 162461143. 2016 ASABE Annual International Meeting, Orlando, FL. USA.
49. Huang, M., Kim, M. S., Chao, K., **Qin, J.**, and Zhu, Q. 2016. Hyperspectral reflectance imaging for benzoyl peroxide detection in flour. ASABE Paper No. 162459607. 2016 ASABE Annual International Meeting, Orlando, FL. USA.
48. Chao, K., Dhakal, S., **Qin, J.**, and Kim, M. S. 2016. Raman spectral imaging technique on detection of melamine in skim milk powder. ASABE Paper No. 162455818. 2016 ASABE Annual International Meeting, Orlando, FL. USA.
47. Dhakal, S., Chao, K., **Qin, J.**, Kim, M. S., and Schmidt, W. F. 2016. Study on Raman spectral imaging method for simultaneous estimation of ingredients concentration in food powder. ASABE Paper No. 162458037. 2016 ASABE Annual International Meeting, Orlando, FL. USA.
46. **Qin, J.**, Chao, K., and Kim, M. S. 2016. Line-scan spatially offset Raman spectroscopy for inspecting subsurface food safety and quality. Proceedings of SPIE Vol. 9864, 98640C. Defense and Commercial Sensing Symposium 2016, Baltimore, MD. USA.
45. Qiao, L., Peng, Y., Chao, K., and **Qin, J.** 2016. Rapid discrimination of main red meat species based on near-infrared hyperspectral imaging technology. Proceedings of SPIE Vol. 9864, 98640U. Defense and Commercial Sensing Symposium 2016, Baltimore, MD. USA.
44. Broadhurst, C. L., Schmidt, W. F., Kim, M. S., Nguyen, J. K., Qin, J., Chao, K., Bauchan, G. L., and Shelton, D. R. 2016. Continuous gradient temperature Raman spectroscopy of the long chain polyunsaturated fatty acids docosapentaenoic (DPA, 22:5n-6) and docosahexaenoic (DAH; 2:6n-3) from -110 to 20 C. Proceedings of SPIE Vol. 9864, 98640E.

Defense and Commercial Sensing Symposium 2016, Baltimore, MD. USA.

43. Chao, K., Dhakal, S., **Qin, J.**, Kim, M. S., and Bae, A. 2016. Raman spectroscopy-based detection of chemical contaminants in food powders. Proceedings of SPIE Vol. 9864, 98640Y. Defense and Commercial Sensing Symposium 2016, Baltimore, MD. USA.
42. Dhakal, S., Chao, K., **Qin, J.**, Kim, M. S. Schmidt, W. F., and Chan, D. E. 2016. Detection of metanil yellow contamination in turmeric using FT-Raman and FT-IR spectroscopy. Proceedings of SPIE Vol. 9864, 98640A. Defense and Commercial Sensing Symposium 2016, Baltimore, MD. USA.
41. **Qin, J.**, Chao, K., and Kim, M. S. 2015. Spatially offset Raman spectroscopy based on a line-scan hyperspectral Raman system. ASABE Paper No. 152190172. 2015 ASABE Annual International Meeting, New Orleans, LA. USA.
40. **Qin, J.**, Chao, K., and Kim, M. S. 2015. Screening of adulterants in powdered foods and ingredients using line-scan Raman chemical imaging. Proceedings of SPIE Vol. 9488, 94880F. Defense and Security Symposium 2015, Baltimore, MD. USA.
39. Chao, K., Dhakal, S., **Qin, J.**, Kim, M. S., Peng, Y., and Schmidt, W. F. 2015. Depth of penetration of a 785nm wavelength laser in food powders. Proceedings of SPIE Vol. 9488, 94880U. Defense and Security Symposium 2015, Baltimore, MD. USA.
38. Dhakal, S., Chao, K., **Qin, J.**, and Kim, M. S. 2015. Raman-spectroscopy-based chemical contaminant detection in milk powder. Proceedings of SPIE Vol. 9488, 94880E. Defense and Security Symposium 2015, Baltimore, MD. USA.
37. Zhao, J., Peng, Y., Chao, K., **Qin, J.,** Dhakal, S., Xu, T. 2015. Rapid detection of benzoyl peroxide in wheat flour by using Raman scattering spectroscopy. Proceedings of SPIE Vol. 9488, 94880S. Defense and Security Symposium 2015, Baltimore, MD. USA.
36. Zhai, C., Li, Y., Peng, Y., Xu, T., Dhakal, S., Chao, K., and **Qin, J.** 2015. Research on identification and determination of mixed pesticides in apples using surface enhanced Raman spectroscopy. Proceedings of SPIE Vol. 9488, 94880R. Defense and Security Symposium 2015, Baltimore, MD. USA.
35. **Qin, J.**, Chao, K., and Kim, M. S. 2014. Authenticating powdered foods and ingredients using a high-throughput Raman chemical imaging method. ASABE Paper No. 141897627. 2014 ASABE Annual International Meeting, Montreal, Quebec, Canada.
34. Dhakal, S., Peng, Y., Li, Y., Chao, K., **Qin, J.**, Zhang, L., and Xu, T. 2014. Rapid detection of chlorpyrifos pesticide residue concentration in agro-product using Raman spectroscopy. Proceedings of SPIE Vol. 9108, 91080O. Defense and Security Symposium 2014, Baltimore, MD. USA.
33. **Qin, J.**, Chao, K., and Kim, M. S. 2014. High-throughput Raman chemical imaging for evaluating food safety and quality. Proceedings of SPIE Vol. 9108, 91080F. Defense and Security Symposium 2014, Baltimore, MD. USA.
32. Kim, D. G., Burks, T. F., Ritenour, M. A., and **Qin, J.** 2013. Citrus black spot detection using hyperspectral imaging. Proceedings of the Florida State Horticultural Society, 126, 172-179.
31. **Qin, J.**, Chao, K., Cheng, Y., and Kim, M. S. 2013. Authentication of milk powder using Raman scattering spectroscopy and imaging. ASABE Paper No. 131591839. 2013 ASABE Annual International Meeting, Kansas City, MO. USA.
30. Dhakal, S., Li, Y., Peng, Y., Chao, K., and **Qin, J.** 2013. Nondestructive detection of pesticide residue concentration in apple by Raman spectral technology. ASABE Paper No. 131587022. 2013 ASABE Annual International Meeting, Kansas City, MO. USA.
29. **Qin, J.**, Chao, K., and Kim, M. S. 2013. Development of a Raman chemical image detection algorithm for authenticating dry milk. Proceedings of SPIE Vol. 8721, 872102. Defense and Security Symposium 2013, Baltimore, MD. USA.
28. Chao, K., **Qin, J.**, Kim, M. S., Peng, Y., Chan, D. E., and Cheng, Y. 2013. Raman spectroscopy and imaging to detect contaminants for food safety applications. Proceedings of SPIE Vol. 8721, 87210S. Defense and Security Symposium 2013, Baltimore, MD. USA.

27. Schmidt, W. F., Nguyen, J. K., **Qin, J.**, Kim, M. S., Mookherji, S., McConnell, L. L., and Hapeman, C. J. 2013. DSC and Raman spectra of a and b-Endosulfan plus 60/40 mixture. Proceedings of SPIE Vol. 8721, 87210R. Defense and Security Symposium 2013, Baltimore, MD. USA.
26. Fu, X., Kim, M. S., Chao, K., **Qin, J.**, Lim, J., Lee, H., and Ying, Y. 2013. Investigation of NIR hyperspectral imaging for discriminating melamine in milk powder. Proceedings of SPIE Vol. 8721, 87210F. Defense and Security Symposium 2013, Baltimore, MD. USA.
25. Dhakal, S., Li, Y., Peng, Y., Chao, K., and **Qin, J.** 2013. Optical instrument development for detection of pesticide residue in apple surface. Proceedings of SPIE Vol. 8721, 87210M. Defense and Security Symposium 2013, Baltimore, MD. USA.
24. **Qin, J.**, Chao, K., and Kim, M. S. 2012. Evaluating internal maturity of tomatoes using spatially offset Raman spectroscopy. ASABE Paper No. 121337431. 2012 ASABE Annual International Meeting, Dallas, TX. USA.
23. **Qin, J.**, Chao, K., and Kim, M. S. 2012. Detecting multiple adulterants in dry milk using Raman chemical imaging. Proceedings of SPIE Vol. 8369, 83690H. Defense and Security Symposium 2012, Baltimore, MD. USA.
22. Cheng, Y., **Qin, J.**, Lim, J., Chan, D. E., Kim, M. S., and Chao, K. 2012. An investigation of FT-Raman spectroscopy for quantification of additives to milk. Proceedings of SPIE Vol. 8369, 83690W. Defense and Security Symposium 2012, Baltimore, MD. USA.
21. **Qin, J.**, Chao, K., and Kim, M. S. 2011. Evaluating carotenoid changes in tomatoes during postharvest ripening using Raman chemical imaging. Proceedings of SPIE Vol. 8027, 802703. Defense and Security Symposium 2011, Orlando, FL. USA.
20. Chao, K., **Qin, J.**, Kim, M. S., and Mo, C. Y. 2011. A Raman chemical imaging system for detection of contaminants in food. Proceedings of SPIE Vol. 8027, 802710. Defense and Security Symposium 2011, Orlando, FL. USA.
19. Tang, X., Mo, C. Y., Chan, D. E., Peng, Y., **Qin, J.**, Yang, C. C., Kim, M. S., and Chao, K. 2011. Physical and mechanical properties of spinach for whole-surface online imaging inspection. Proceedings of SPIE Vol. 8027, 802711. Defense and Security Symposium 2011, Orlando, FL. USA.
18. **Qin, J.**, Chao, K., and Kim, M. S. 2010. Development of a Raman chemical imaging system for food safety inspection. ASABE Paper No. 1009166. 2010 ASABE Annual International Meeting, Pittsburgh, PA. USA.
17. Chao, K., Liu, Y., Kim, M. S., Yang, C.-C., and **Qin, J.** 2010. Surface-enhanced Raman scattering spectroscopy for rapid bacterial screening. ASABE Paper No. 1008542. 2010 ASABE Annual International Meeting, Pittsburgh, PA. USA.
16. **Qin, J.**, Jun, W., Kim, M. S., and Chao, K. 2010. Detection of organic residues on food processing equipment surfaces by spectral imaging method. Proceedings of SPIE Vol. 7676, 767608. Defense and Security Symposium 2010, Orlando, FL. USA.
15. **Qin, J.**, Burks, T. F., Zhao, X., Niphadkar, N., and Ritenour, M. A. 2009. Hyperspectral band selection for citrus canker detection using multispectral algorithms. ASABE Paper No. 096144. 2009 ASABE Annual International Meeting, Reno, NV. USA.
14. Niphadkar, N., Burks, T. F., **Qin, J.**, and Ritenour, M. A. 2009. Estimation of detection limit for size of citrus canker lesions based on hyperspectral reflectance imaging. ASABE Paper No. 096254. 2009 ASABE Annual International Meeting, Reno, NV. USA.
13. Lu, R., Huang, M., and **Qin, J.** 2009. Analysis of hyperspectral scattering characteristics for predicting apple fruit firmness and soluble solids content. Proceedings of SPIE Vol. 7315, 73150I. Defense and Security Symposium 2009, Orlando, FL. USA.
12. **Qin, J.**, Burks, T. F., Ritenour, M. A., and Bonn, W. G. 2008. Detecting citrus canker by hyperspectral reflectance imaging and spectral information divergence. ASABE Paper No. 084066. 2008 ASABE Annual International Meeting, Providence, RI. USA.
11. Lu, R., **Qin, J.**, Peng, Y., and Bailey, B. B. 2008. Comparison of methods for analyzing

hyperspectral scattering images to predict apple fruit firmness and soluble solids content. ASABE Poster. 2008 ASABE Annual International Meeting, Providence, RI. USA.

10. **Qin, J.**, Burks, T. F., Kim, D. G., and Bulanon, D. M. 2008. Classification of citrus peel diseases using color texture feature analysis. 2008 Food Processing Automation Conference, Providence, RI. USA.
9. **Qin, J.**, Burks, T. F., Kim, M. S., Chao, K., and Ritenour, M. A. 2008. Detecting citrus canker by hyperspectral reflectance imaging and PCA-based image classification method. Proceedings of SPIE Vol. 6983, 698305. Defense and Security Symposium 2008, Orlando, FL. USA.
8. **Qin, J.**, Lu, R., and Peng, Y. 2007. Internal quality evaluation of apples using spectral absorption and scattering properties, Proceedings of SPIE Vol. 6761, 67610M. Optics East 2007, Boston, MA. USA.
7. **Qin, J.** and Lu, R. 2007. Monte Carlo simulation of light propagation in apples. ASABE Paper No. 073058. 2007 ASABE Annual International Meeting, Minneapolis, MN. USA. (**Won 1st place for AOC Graduate Student Paper Award**)
6. Lu, R., **Qin, J.**, and Peng, Y. 2006. Measurement of the optical properties of apples by hyperspectral imaging for assessing fruit quality. ASABE Paper No. 066179. 2006 ASABE Annual International Meeting, Portland, OR. USA.
5. **Qin, J.** and Lu, R. 2006. Measurement of the optical properties of apples using hyperspectral diffuse reflectance imaging. ASABE Paper No. 063037. 2006 ASABE Annual International Meeting, Portland, OR. USA. (**Won 2nd place for ASABE Graduate Student Research Award and 1st place for AOC Graduate Student Paper Award**)
4. **Qin, J.** and Lu, R. 2005. Hyperspectral diffuse reflectance for determination of the optical properties of milk and fruit and vegetable juice. Proceedings of SPIE Vol. 5996, 59960Q. Optics East 2005, Boston, MA. USA.
3. **Qin, J.** and Lu, R. 2005. Determination of the optical properties of turbid materials by hyperspectral diffuse reflectance, ASABE Paper No. 053068. 2005 ASABE Annual International Meeting, Tampa, FL. USA.
2. **Qin, J.** and Lu, R. 2004. Detecting pits in tart cherries by hyperspectral transmission imaging. Proceedings of SPIE Vol. 5587, p. 153-162. Optics East 2004, Philadelphia, PA. USA.
1. **Qin, J.**, Zhou, D., Zhang, L., Lei, Z., and Xu, K. 2002. Conditions and methods of high precision measurement of blood glucose concentration using Mid-IR ATR spectroscopy, Proceedings of SPIE Vol. 4916, p. 484-489. Photonics Asia 2002, Shanghai, China.