

YONG-CHENG SHI

EDUCATION

B.S. Chemical Engineering 1984 Zhejiang University (China)
M.S. Grain Science 1989 Kansas State University
Ph.D. Grain Science 1993 Kansas State University

PROFESSIONAL EXPERIENCE

2011 Professor, Department of Grain Science and Industry, Kansas State University
2006 – 2010 Associate Professor, Department of Grain Science and Industry, Kansas State University
2004 – 2005 Principal Business Scientist, National Starch & Chemical Company
2001 – 2004 Research Manager, National Starch & Chemical Company
1996 – 2000 Senior Project Supervisor, National Starch & Chemical Company
1994 – 1996 Project Supervisor, National Starch & Chemical Company

Awards Received at National Starch & Chemical Company

- ICI ICEST (Innovation, Creativity, Excellence in Science and Technology) Award (inventor and team member), 2004.
- BeSCCo Innovation Award (team member), 2002 and 2003
- Patent Recognition Award (cash award for patented product achieved sales greater than one million dollar), 2002. The product achieved over \$10 million sales in 2003.
- Technical Differentiation Program Award, Food Starch Division, 2001 and 2002.
- Member of two Million Dollar Club (accumulative sales of new, patented product greater than one million dollars), 1999 and 2001.
- **Industry Recognition Awards** for NOVELOSE Resistant Starch Product (inventor and core team member)
 - 2003 IFT - Industry Achievement Award
 - 2002 Food Ingredients South America – Most Innovative Food Ingredient

COURSE TEACHING AT Kansas State University

GRSC 901 Starch Chemistry and Technology, Graduate Level, 2006-present
GRSC 902 Carbohydrates in Food, Graduate Level, 2006-present
GRSC 915 Advanced Cereal Chemistry, Graduate Level, 2009-present (team teaching, coordinator and instructor)

PROFESSIONAL ACTIVITIES:

Member of Advisory Board, *Starch* journal, 2005-present
Associate Editor, *Cereal Chemistry*, 2006-2013
Member of Editorial Board of *Food Digestion*, 2009-present
Course Director, *Food Starch Technology*, The Center for Professional Advancement, 2005-2013.

U.S. PATENTS

1. Cui, Xiaoyuan, Cimeciolu, A. L., Shi, Yong-Cheng. US Patent 7,138,035 (Nov. 21, 2006), Process for the selective modification of carbohydrates by peroxidase catalyzed oxidation.

2. Shi, Yong-Cheng; Cui, Xiaoyuan M.; Birkett, Anne G.; Thatcher, Michael, US Patent 7,081,261 (July 25, 2006), Resistant starch prepared by isoamylase debranching of low amylose starch.
3. Shi, Yong-Cheng, Liu, Yayun, Billmers, Robert L., Stoop, Russell, Huang, David, US Patent 7,070,822 (July 4, 2006), Powdered adhesive for foods.
4. Shi, Yong-Cheng; Cui, Xiaoyuan M.; Birkett, Anne G.; Thatcher, Michael. US Patent # 6,929,817 (August 16, 2005), Slowly digestible starch product.
5. Y.-C. Shi, C.-W. Chiu, D.P. Huang, and D. Janik. US Patent # 6,896,915 (May 24, 2005), Use of converted low viscosity, high solids starch in foods.
6. Shi, Yong-Cheng; Cui, Xiaoyuan M.; Birkett, Anne G.; Thatcher, Michael. US Patent # 6,890,571 (May 10, 2005). Slowly digestible starch product.
7. Y.-C. Shi and R. Jeffcoat. US Patent # 6,664,389 (Dec. 16, 2003), Highly resistant granular starch.
8. Y.-C. Shi, G. Jennifer, and R. Jeffcoat. US Patent # 6,277,186 (Aug. 21, 2001), Thermally – Inhibited starch prepared with oligosaccharides.
9. Y.-C. Shi, J.L. Eden, and J. Kasica. US Patent # 6,096,524 (Aug. 1, 2000), Chemically derived maltodextrins.
10. Y.-C. Shi, J.L. Eden, J.J. Kasica, and R. Jeffcoat. US Patent # 6,054,302 (April. 25, 2000). High solids, single phase process for preparing enzyme-converted starches.
11. J. L. Eden, Y.-C. Shi, R. J. Nesiewicz, and J. Wiczorek. US Patent # 5,932,639 (Aug. 3, 1999). Maltodextrin-Based Adhesives.
12. C.-W. Chiu, Y.-C. Shi, and M. Sedam. US Patent # 5,902,410 (May 11, 1999). Process for producing amylase resistant starch granular starch.
13. Y.-C. Shi, J.L. Eden, and J.J. Kasica. US Patent # 5,795,397 (Aug. 18, 1998). Chemically derivatized maltodextrins.
14. J. L. Eden, Y.-C. Shi, R. J. Nesiewicz, and J. Wiczorek. US Patent # 5,688,845 (Nov. 18, 1997). High solids, maltodextrin-based adhesives.
15. Y.-C. Shi and P. T. Trzasko. US Patent # 5,593,503 (Jan. 14, 1997). Process for producing amylase resistant granular starch.

PENDING US PATENT APPLICATIONS

1. Y. C. Shi and Y. Bai, Starch esters and the method of preparation (A regular patent application was filed in February, 2010).
2. Y. C. Shi, Non-cohesive waxy flour and the method of preparation (First US provisional application was filed in July 2006. Regular patent application was filed in July 2008)
3. Y.C. Shi and Y. Sang, Sorghum flour with high resistant starch content and the method of preparation (A provisional patent application was filed in Sept. 2007).
4. Shariff, Roxanna, Bindzus, Wolfgang, Shi, Yong-Cheng, Shah, Tarak, Green, Vincent. Rice flour composition with enhanced process tolerance and solution stability. Filed June, 2005.
5. Okoniewska, Monika K., Bindzus, Wolfgang, Brown, Ian, Skorge, Robert A., Yong-Cheng Shi, Shan, Tarak J. Flour composition with increased total dietary fiber, process of making, and uses thereof. Filed April, 2005.

6. Shi, Yong-Cheng; Cui, Xiaoyuan; Chakrabarti, Sibiu, US Patent 20030215499 A1, Use of completely linear short chain alpha-glucans as a pharmaceutical excipient.
7. Cui, Xiaoyuan; Cimecioglu, A. Levent; Shi, Yong-Cheng, US Patent 20030029588 A1, Process for the selective modification of carbohydrates by peroxidase catalyzed oxidation.
8. Shi, Yong-Cheng; Liu, Yayun, US Patent 20020197373 A1, Cereal grains with high total dietary fiber and/or resistant starch content and their preparation thereof.
9. Billmers, Robert L, Shi, Yong-Cheng, Dihl, Deborah L., Starches for reduced fat in fried foods systems. Filed in Aug. 2003.

PUBLICATIONS (*graduate student / research associate directly supervised by Dr. Shi; **corresponding author)

1. R. Shukri, L. Zhu, P. A. Seib, C. Maningat, Y.-C. Shi, Direct in-vitro assay of resistant starch in phosphorylated cross-lined starch, *Bioactive Carbohydrates and Dietary Fibre*, 2015, 5, 1-9.
2. R. C. Kaufman, J. D. Wilson, S. R. Bean, T. J. Herald, Y.-C. Shi, Development of a 96-well plate iodine binding assay for amylose content determination. *Carbohydrate Polymers*. 2015, 115, 444-447.
3. L. R. Brewer*, C. Weber, M. Haub, L. Cai*, and Y-C Shi**, Glycemic Response and Fermentation of Crystalline Short Linear α -Glucans from Debranched Waxy Maize Starch, *J. Agricultural and Food Chemistry*, 2015, 63, 9528–9535.
4. S. K. Garimella Purna*, Y.-C. Shi,** L. Guan*, J. D. Wilson, and R. A. Graybosch, Factors Governing Pasting Properties of Waxy Wheat Flours, *Cereal Chem.*, 2015, 92, 529-535.
5. N. Grewal*, J. Faubion, G. Feng, R. C. Kaufman, J. D. Wilson, and Y.-C. Shi**, Structure of Waxy Maize Starch Hydrolyzed by Maltogenic α -Amylase in Relation to Its Retrogradation, , *J. Agric. and Food Chem.*, 2015, 63, 4196-4201.
6. D. Qiu*, L. Yang, and Y.-C. Shi**, Formation of Vitamin E Emulsion Stabilized by Octenylsuccinic Starch: Factors Affecting Particle Size and Oil Load, *J. Food Science*, 2015, 80, C680-C686.
7. R. Shukri*, and Y.-C. Shi**, Physicochemical properties of highly cross-linked maize starches and their enzymatic digestibilities by three analytical methods, *J. Cereal Sci.*, 2015, 63, 72-80.
8. W. Ding, Y. Wang, W. Zhang, Y. Shi, D. Wang, Effect of ozone treatment on physicochemical properties of waxy rice flour and waxy rice starch. *International Journal of Food Science & Technology*, 2015, 50, 744-749.
9. Z. Li, L. Cai, Z. Gu, Y.-C. Shi, Effects of granule swelling on starch saccharification by granular starch hydrolyzing enzyme, *J. Agricultural and Food Chemistry*, 2014, 62, 8114-8119.
10. Y. Bai*, L. Cai*, J. Douth, E. P. Gilbert, Y.-C. Shi**, Structural changes from native

- waxy maize starch granules to cold-water-soluble pyrodextrin during thermal treatment, *J. Agric. Food Chem.*, 2014, 62, 4186-4194.
11. L. Cai*, Y.-C. Shi**, Preparation, structure, and digestibility of crystalline A- and B-type aggregates from debranched waxy starches. *Carbohydrate Polymers*, 2014, 105, 341-350.
 12. Y. Bai*, R. C. Kaufman, J. D. Wilson, Y.-C. Shi**, Position of modifying groups on starch chains of octenylsuccinic anhydride-modified waxy maize starch, *Food Chemistry*, 2014, 153, 193-199.
 13. L. R. Brewer*, J. Kubola, S. Siriamornpun, T. J. Herald, Y.-C. Shi**, Wheat bran particle size influence on phytochemical extractability and antioxidant properties, *Food Chemistry*, 2014, 152, 483-490.
 14. D. Lu*, X. Shen, X. Cai, F. Yan, W. Lu**, Y.-C. Shi**, Effects of heat stress during grain filling on the structure and thermal properties of waxy maize starch, *Food Chemistry*, 2014, 143, 313-318.
 15. Y.-C. Shi and C. C. Maningat (editors), 2013, *Resistant Starch, Sources, Applications and Health*, IFT Press, Wiley Blackwell.
 16. L. Cai* and Y.-C. Shi**, Self-Assembly of short linear chains to A- and B-type starch spherulites and their enzymatic digestibility, *J. Agric. Food Chem.*, 2013, 61, 10787-10797.
 17. F. Xu*, Y.-C. Shi**, D. Wang**, Towards understanding structural changes of photoperiod-sensitive sorghum during sulfuric acid pretreatment, *Bioresource Technology*, 2013, 135, 704-709
 18. Y. Bai, Y.-C. Shi, Reaction of octenylsuccinic anhydride with a mixture of granular starch and soluble maltodextrin, *Carbohydrate Polymers*, 2013, 98, 1599-1602.
 19. F. Xu*, Y.-C. Shi**, D. Wang**, X-ray scattering studies of lignocellulosic biomass, A review. *Carbohydrate Polymers*, 2013, 94, 904-917.
 20. Z.-G Luo*, Y.-C. Shi**, Preparation of acetylated waxy, normal, and high-amylose maize starches with intermediate degrees of substitution in aqueous solution and their properties. *J. Agric. Food Chem.*, 2012, 60, 9468-9475.
 21. D. Qiu*, Y. Bai*, Y.-C. Shi**, Identification of isomers and determination of octenylsuccinate in modified starch by HPLC and mass spectrometry. *Food Chemistry*, 2012, 135, 665-671.
 22. F. Xu*, Y.-C. Shi, D. Wang, Enhanced production of glucose and xylose with partial dissolution of corn stover in ionic liquid, 1-ethyl-3-methylimidazolium acetate, *Bioresource Technology*, 2012, 114, 720-724.
 23. L. R. Brewer*, L. Cai*, Y.-C. Shi**, Mechanism and enzymatic contribution to in vitro test method of digestion for maize starches differing in amylose content. *J. Agric. Food Chem.*, 2012, 60, 4379-4387.
 24. F. Qin , J. Man, C. Cai , B. Xu, M. Gu, L. Zhu, Y.-C. Shi, Q. Liu, C. Wei. Physicochemical properties of high-amylose rice starches during kernel development.

- Carbohydrate Polymers*, 2012, 88, 690-698.
25. F. Xu*, Y.-C. Shi**, D. Wang**, Structural features and changes of lignocellulosic biomass during thermochemical pretreatments: A synchrotron X-ray scattering study on photoperiod-sensitive sorghum, *Carbohydrate Polymers*, 2012, 88, 1149-1156.
 26. S. Yan, X. Wu, J. Faubion, S. Bean, L. Cai, Y.-C. Shi, X. S. Sun, D. Wang. Ethanol Production Performance of Ozone Treated Tannin Grain Sorghum Flour, *Cereal Chemistry*, 2012, 89, 30-37.
 27. L.-J. Zhu*, H. Dogan, H. Gajula, M.-H. Gu, Q.-Q. Liu**, Y.-C. Shi**, Study of kernel structure of high-amylose and wild-type rice by X-ray microtomography and SEM, *J. Cereal Science*, 2012, 55, 1-5
 28. L. Zhu*, M. Gu, X. Meng, S. C. K. Cheung, H. Yu, J. Huang, Y. Sun, Y. Shi**, and Q. Liu**, High-amylose rice improves indices of animal health in normal and diabetic rats, *Plant Biotechnology Journal*, 2011, 1–10
 29. L. Cai*, Y. Bai*, Y.-C. Shi**, Study on melting and crystallization of short-linear chains from debranched waxy starches by in situ synchrotron wide-angle X-ray diffraction, *J. Cereal Science*, 2012, 55, 373-379.
 30. L.-J. Zhu*, Q.-Q. Liu, J. D. Wilson, M.-H. Gu, Y.-C. Shi**. Digestibility of rice (*Oryza sativa* L.) flours and starches differing in amylose content. *Carbohydrate Polymers*, 2011, 86, 1751– 1759.
 31. S. K. Garimella Purna*, R. A. Miller, P. A. Seib, R. A. Graybosch, Y.-C. Shi**, Volume, texture, and molecular mechanism behind the collapse of bread made with different levels of hard waxy wheat flours, *J. Cereal Science*, 2011, 54, 37-43.
 32. F. Xu, Y.-C. Shi, X. Wu, K. Theerarattananoon, S. Staggenborg, Donghai Wang, Sulfuric acid pretreatment and enzymatic hydrolysis of photoperiod sensitive sorghum for ethanol production, *Bioprocess Biosyst Eng.* 2011, 34, 485–492
 33. Y. Bai*, Y.-C. Shi**, A. Herrera, O. Prakash. Study of octenyl succinic anhydride-modified waxy maize starch by nuclear magnetic resonance spectroscopy. *Carbohydrate Polymers*. 2011, 83, 407-413.
 34. Y. Bai*, Y.-C. Shi**. Structure and preparation of octenyl succinic esters of granular starch, microporous starch and soluble maltodextrin. *Carbohydrate Polymers*. 2011, 83, 520-527.
 35. X. Wu, B. Jampala, A. Robbins, D. Hays, S. Yan, F. Xu, W. Rooney, G., Peterson, Y.-C. Shi, D. Wang. Ethanol fermentation performance of grain sorghum (*Sorghum bicolor*) with modified endosperm matrices. *J. Agric. Food Chem.* 2010, 58, 9556–9562
 36. L.-J. Zhu*, R. Shukri*, N. J. de Mesa-Stonestreet, S. Alavi, H. Dogan, Y.-C. Shi**. 2010. Mechanical and microstructural properties of soy protein – high amylose corn starch extrudates in relation to physicochemical changes of starch during extrusion. *J. Food Engineering*. 100 (2), 232-238.

37. L. Cai*, Y.-C. Shi**, L. Rong and B. S. Hsiao. 2010. Debranching and crystallization of waxy maize starch in relation to enzyme digestibility. *Carbohydrate Polymers*. 81 (2), 385-393.
38. L. Cai*, Y.-C. Shi**. 2010. Structure and digestibility of crystalline short-chain amylose from debranched waxy wheat, waxy maize, and waxy potato starches. *Carbohydrate Polymers*. 79 (4), 1117-1123.
39. D. L. Wetzel, Y.-C. Shi , Ute Schmidt. 2010. Confocal Raman and AFM imaging of individual granules of octenyl succinate modified and natural waxy maize starch. *Vibrational Spectroscopy*. 53 (1), 173-177.
40. D. L. Wetzel, Y.-C. Shi, J. A. Reffner. 2010. Synchrotron infrared confocal microspectroscopical detection of heterogeneity within chemically modified single starch granules. *Applied Spectroscopy*. 64(3), 282-285.
41. Y. Sang*, S. Alavi, Y.-C. Shi**, 2009. Subzero glass transition of waxy maize starch studied by differential scanning calorimetry. *Starch*. 61 (12), 687-695.
42. L.-J. Zhu*, Q.-Q. Liu, Y. Sang*, M.-H. Gu**, Yong-Cheng Shi**. 2010. Underlying Reasons for waxy rice flours having different pasting properties. *Food Chemistry*. 120 (1), 94-100
43. Y. Sang*, P. A. Seib, A. I. Herrea, O. Prakash, Y.-C. Shi**, 2010. Effects of alkaline treatment on the structure of phosphorylated wheat starch and its digestibility. *Food Chemistry*, 118 (2), 323-327 (doi:10.1016/j.foodchem.2009.04.121).
44. L. Guan*, P. A. Seib, R. A. Graybosch, S. Bean, Y.-C. Shi**, 2009. Dough rheology and wet milling of hard waxy wheat flours. *J. Agric. Food Chem*. 57, 7030-7038 (DOI:10.1021/jf900438v).
45. Y. Bai*, Y.-C. Shi**, D. L. Wetzel**, 2009, Fourier transform infrared (FT-IR) microspectroscopic census of single starch granules for octenyl succinate ester modification. *J. Agric. Food Chem.*, 57, 6443-6448.
46. R. Zhao, X. Wu, B. W. Seabourn, S. R. Bean, L. Guan, Y.-C. Shi, J. D. Wilson, R. Madl, and D. Wang, 2009. Comparison of waxy vs. nonwaxy wheats in fuel ethanol fermentation. *Cereal Chem*. 86:145-156.
47. J. Demesa, S. Alavi, N. Singh, Y.-C. Shi, H. Dogan, Y. Sang. 2009. Effect of soy protein concentrate and extruder screw speed on physico-chemical, textural and cellular properties of corn starch-based expanded snacks. *J. Food Engineering* 90 (2):262-270.
48. R. Graybosch, R. H. Liu, R. Madl, Y.-C. Shi, D. Wang, and X. Wu. 2009, New uses for wheat and modified wheat products, in *Wheat: Science and Trade*, Ed. Brett F. Carver, Wiley-Blackwell, Ames, Iowa.
49. Y. Sang*, S. Bean, P. A. Seib, J. Pedersen, and Y.-C. Shi**, 2008, Structure and functional properties of sorghum starches differing in amylose content. *J. Agric. Food Chem*. 56:6680-6685.

50. Y.C. Shi**. 2008. Two- and multi-step annealing of cereal starches in relation to gelatinization. *J. Agric. Food Chem.* 56(3):1097-1104.
51. D. Wang, S. Bean, J. McLaren, P. Seib, R. Madl, M. Tuinstra, Y. Shi, M. Lenz, X. Wu, R. Zhao. 2008. Grain sorghum is a viable feedstock for ethanol production. *Journal of Industrial Microbiology and Biotechnology* 35:313-320.
52. Y. Liu and Y.-C. Shi**. 2006. Phase and state transitions in granular starches studied by dynamic differential scanning calorimetry, *Starch*, 58: 433-442.
53. Y.-C. Shi** and R. Jeffcoat. 2001. Structural Features of Resistant Starch. In “*Advanced Dietary Fibre Technology*”, B. McCleary, and L. Prosky eds., Balckwell Science Ltd.
54. P. H. Richardson, R. Jeffcoat, and Y.-C. Shi. 2000. High Amylose Starches: From Biosynthesis to their Use as Food Ingredients. *Materials Research Society Bulletin*, 25 (12):20-24.
55. G.P. Schwall, R. Safford, R.J. Westcott, R. Jeffcoat, A. Tayal, Y.-C. Shi, M.J. Gidley, and S.A. Jobling. 2000. Production of very-high-amylose potato starch by inhibition of SBE A and B. *Nature Biotechnology* 18:551-554.
56. Y.-C. Shi**, T. Capitani, P. Trzasko and R. Jeffcoat. 1997. Molecular Structure of High Amylose Maize Starches. *J. Cereal Sci.* 27:289-299
57. S. Case, T. Capitani, J. Whaley, Y.-C. Shi, P. Trzasko, and R. Jeffcoat. 1997. Physical Properties and Gelation Behavior of High Amylose Maize Starches. *J. Cereal Sci.* 27:301-314.
58. D. T. Gordon, K. Topp, Y.-C. Shi, J. Zallie, and R. Jeffcoat. 1997. Resistant Starch: Physical and Physiological Properties. in “*New Technologies for Healthy Foods & Nutraceuticals*” (ed. M. Yalpani) ATL Press, Inc.
59. Y.-C. Shi, P. A. Seib, 1995. Fine Structure of Maize Starches from Four *wx*-containing genotypes of the W64A inbred line in relation to gelatinization and retrogradation. *Carbohydrate Polymers.* 26:141-147.
60. Y.-C. Shi, P. A. Seib, and J. E. Bernardin, 1994. Effects of Temperature During Grain-Filling on Starches from Six Wheat Cultivars. *Cereal Chem.* 71(4):369-383.
61. Y.-C. Shi, P.A. Seib, 1992. The Structure of Four Waxy Starches Related to Gelatinization and Retrogradation. *Carbohydr. Res.* 227:131-145
62. Y.-C. Shi, P.A. Seib and S.P.W. Lu, 1991. Leaching of Amylose from Wheat and Corn Starch. in: *Water Relationships in Food*. H. Levine and L. Slade, eds. Plenum Press, New York
63. Y.-C. Shi and P.A. Seib, 1989. Properties of Wheat Starch Compared to Normal Maize Starch. in: *Wheat is Unique*. Y. Pomeranz, ed. AACC, St. Paul

PRESENTATIONS (*graduate student / research associate directly supervised by Dr. Shi; presenter)

1. S. Sittipod and Y.-C. Shi (Invited), Changes of starch during parboiling of rice. The 8th International Conference on Starch Technology (Starch Update 2015), Bangkok, Thailand, Decemeber 3-4, 2015.
2. L. Cai, M. Sweedman, J. Shi, and Y.-C. Shi, Recent Advances in Resistant and Slowly Digestible Starch, 11th International Conference on Polysaccharides-Glycoscience, Prague, Czech Republic, October 7-9, 2015.
3. Y.-C. Shi, B. Xu, A. Mense, S. K. Garimella Purna, L. Guan (invited), Properties, modifications, and applications of waxy wheat flour and starch. International Symposium on Advances in Cereal Science for Asia, Yangzhou, China, November 5-8, 2015.
4. Y.-C. Shi, S. K. Garimella Purna, L. Guan (invited). Improving functional properties of waxy wheat flour and starch. 64th Australia Cereal Science Conference, Brisbane, Australia. August 24-27th 2014.
5. S. Sittipod and Y.-C. Shi (invited), Changes of starch during parboiling of rice, 64th Australia Cereal Science Conference, Brisbane, Australia. August 24-27th, 2014.
6. Y.-C. Shi, S. K. Garimella Purna, L. Guan, Modifications, properties, and applications of waxy wheat flour and starch. AACC International Annual Meeting, Providence, RI, October 5-8, 2014.
7. S. Sittipod and Y.-C. Shi, Changes in morphology of starch in parboiled rice kernels. AACC International Annual Meeting, Providence, RI, October 5-8, 2014.
8. Y.-C. Shi (invited), From insoluble granules to cold-water soluble pyrodextrin: molecular, mesoscopic and microscopic changes of waxy maize starch during thermal decomposition, RMIT University, Melbourne, Australia.
9. Y.-C. Shi, Y. Bai, X. Han and J. Kang (invited), Structure and properties of soluble dietary fiber prepared from starch by dextrinization, 12th International Hydrocolloid Conference, Taipei, Taiwan.
10. M. Xue, Y.-C. Shi, Use of paramagnetic relaxation reagent in quantitative ¹³C NMR of maltodextrin, AACCI annual meeting, Albuquerque, New Mexico, Sept. 29 – Oct. 2, 2013.
11. R. Shukri, P. A. Seib, C. Maningat, Y. C. SHI, In-vitro enzymatic testing method and digestion mechanism of cross-linked wheat starch, AACCI annual meeting, Albuquerque, New Mexico, Sept. 29 – Oct. 2, 2013.
12. L. R. BREWER , Y. C. Shi, C. Weber, M. Huab, L. Cai, Acute human consumption of crystalline short-chain α -glucan, AACCI annual meeting, Albuquerque, New Mexico, Sept. 29 – Oct. 2, 2013.
13. S. SITTIPOD, Y. C. Shi, Changes in rice kernel and starch during steeping in parboiling process, AACCI annual meeting, Albuquerque, New Mexico, Sept. 29 – Oct. 2, 2013.
14. Y. C. SHI, D. Qiu, Use of octenylsuccinic starch in emulsion applications, AACCI annual meeting, Albuquerque, New Mexico, Sept. 29 – Oct. 2, 2013.
15. Y.C. Shi, Preparation, structure, and digestibility of A- and B-type starch spherulites, Starch Round Table, Albuquerque, New Mexico, Sept. 26 – 28, 2013.
16. Y.-C. Shi, Unique Properties, Modifications, and Applications of Waxy Wheat Flour and Starch, The 10th International Food Science and Technology, Wuxi, China, May 30-31, 2013.
17. Y.C. Shi, From insoluble granules to cold-water soluble pyrodextrin: molecular, mesoscopic and microscopic changes of waxy maize starch during thermal decomposition, EPNOE 2013 International Conference on Polysaccharides, Nice, France, Oct. 21-24, 2013

18. Y. Bai, Y.C. Shi, Preparation, structure, and applications of octenylsuccinic anhydride modified starch. Starch Update 2013 - The 7th International Conference on Starch Technology, Bangkok, Thailand, November 21-22, 2013
19. Y.-C. Shi, Nodification, properties, and applications of waxy wheat flour and starch, 63rd Australia Cereal Science Conference, Perth, West Australia. Aug. 25-28, 2013.
20. N. GREWAL*, Y.-C. Shi, Structure of waxy maize starch hydrolyzed by maltogenic amylase in relation to its retrogradation, AACCI annual meeting, Hollywood, FL, Sept. 30 –Oct. 3, 2012.
21. Y. Bai*, Y.-C. SHI, Preparation, structure, and properties of octenylsuccinic starch, AACCI annual meeting, Hollywood, FL, Sept. 30 –Oct. 3, 2012.
22. L. R. Brewer*, L. Cai*, Y.-C. Shi, Roles of alpha-amylase and amyloglucosidase in in vitro resistant starch test, AACCI annual meeting, Hollywood, FL, Sept. 30 –Oct. 3, 2012.
23. L.R. Brewer*, L. Cai*, Y.-C. Shi, Mechanism and Enzymatic Contribution to *In Vitro* Test Method of Digestion for Maize Starches Differing in Amylose Content, Plant and Seaweed Polysaccharides Workshop, Nantes, France, July 17-20, 2012.
24. D. Qiu* and Y.-C. Shi, Formation of vitamin E emulsion stabilized by octenyl succinic starch: factors affecting particle size and oil load, 11th International Hydrocolloids Conference, Purdue University, USA, May 14-18, 2012.
25. Y. Bai* and Y.-C. Shi, Preparation and characterization of octenyl succinic starches with different substitution patterns for emulsion and encapsulation applications, 11th International Hydrocolloids Conference, Purdue University, USA, May 14-18, 2012.
26. Y.-C. Shi (invited), Designed Structure and Digestibility of A- and B-type Crystals through Controlled Assembly of Short-Chain Amylose; Starch Update 2011: The 6th International Conference on Starch Technology, Bangkok, Thailand, February 13-14, 2012.
27. Y.-C. Shi (invited), Structural changes from insoluble starch granules to soluble dextrin, 2nd Starch Science Conference, Guangzhou, China, Nov. 4-6, 2012.
28. Y.-C. Shi (invited), Recent Advances in Developing Enzyme Controlled Digestible Starches, China, Institute of Agro-Products Processing Science and Technology, CAAS, Beijing, China, Dec. 24, 2012.
29. Y.-C. Shi (invited), Recent advances in resistant starch and slowly digestible starch. COFCO, Beijing, China, June 12, 2012.
30. Lauren R Brewer*, Dan Qiu, Yong-Cheng Shi, Phenolic distribution in wheat kernels – chemical and physical structure for nutritional value., 2011 AACCI annual meeting, Palm Springs, CA
31. R.C. Kaufman*, J.D. Wilson and Y.C. Shi, The effect of kernel maturity on the thermal properties of sorghum starch, 2011 AACCI annual meeting, Palm Springs, CA (poster)
32. L. Cai* and Y.-C. Shi, Comparing digestibility of A- and B-type crystals and providing insight on digestibility of starches, 2011 AACCI annual meeting, Palm Springs, CA.
33. L. Cai*, Y.-C. Shi, Preparation, structure and digestibility of A- and B-type crystals from short-chain amylase. The 10th International Hydrocolloids Conference. Shanghai, China, June 20-24, 2010.
34. Y. Bai*, Y.-C. Shi, Structure and preparation of octenyl succinic anhydride modified starches with different physical forms. The 10th International Hydrocolloids Conference. Shanghai,

China, June 20-24, 2010.

35. A. S. Ahmed*, Y.-C. Shi, J. M. Faubion, T.T. Boutte, G. H. Feng, Impact on the pasting properties of wheat starch with the addition of emulsifiers. American Association of Cereal Chemists-International, Savannah, October 24-27, 2010.
36. L. R. Brewer*, L. Cai*, Y.-C. Shi, Digestion mechanism and in vitro test method of maize starch granule digestion. American Association of Cereal Chemists-International, Savannah, October 24-27, 2010.
37. L. Cai*, Y. Bai*, Y.-C. Shi, Melting and crystallization of short linear α -glucans studied by in situ synchrotron wide-angle X-ray diffraction. American Association of Cereal Chemists-International, Savannah, October 24-27, 2010 (poster).
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