

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.
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NAME Sixue Chen	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME SCHEN			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Harbin Normal University, China	B.S.	1991	Biology
East China Normal University, China	M.S.	1993	Plant Physiology
Shanghai Institute of Plant Physiology, CAS	Ph.D.	1996	Plant Biochemistry

A. Positions and Honors**Positions and Employment**

1997-1998	Alexander-von-Humboldt Fellow, Albert-Ludwig-Universitat, Freiburg, Germany
1998-2001	Assistant Research Professor, Royal Veterinary and Agricultural University, Copenhagen, Denmark
2001-2003	Research Associate in Proteomics, University of Pennsylvania, Philadelphia, U.S.A.
2003-2006	Director of Proteomics and Mass Spectrometry Facility, Danforth Center, St. Louis
2006-present	Assistant Professor, Genetics Institute, University of Florida, Gainesville, U.S.A.

Special Training

2007	Faculty Recruitment and Diversity Workshop, University of Florida, U.S.A.
2006	Faculty Mentoring Workshop, Southeast Alliance for Graduate Education and the Professoriate, U.S.A.
2005	VISTA Teaching Workshop, Education Department, University of Florida, U.S.A.
2005	QTRAP 4000 LC-MS/MS operator training, Applied Biosystems, U.S.A.
2004	Practical LC-MS, American Society for Mass Spectrometry, U.S.A.
2004	Progenesis 1D and 2D gel image analysis, Non-linear dynamics, U.K.
2003	QSTAR (QuadrupoleTOF) XL MALDI/LC MS/MS operator training, Applied Biosystems, U.S.A.
2003	MALDI-TOF Voyager Workstation and Proteomic Solutions 1 System, Applied Biosystems, U.S.A.
2001	MassPrep Robotic Liquid Handling System and Micromass QTOF2 Mass Spectrometer, Micromass, U.S.A.
2001	PDQuest 2D gel image analysis, BioRad, U.S.A.
1999	Academic English for Teaching and Scientific Writing, the Language Center of Copenhagen, Denmark.
1998	Bioinformatics courses (DNA and protein sequence analysis), University of Aarhus, Denmark.

Professional Membership and Service

2001 – Present	Member of American Society for Mass Spectrometry (ASMS), American Biological Resources Facility (ABRF), Midwest Mass Spectrometry Society, The Proteomics Society, and American Society for Plant Biology (ASPB)
2001 – Present	Journal referee for <i>Plant Cell</i> , <i>Plant Physiology</i> , <i>Plant Cell Reports</i> , <i>Peptide Letters</i> , <i>Proteomics</i> , <i>Journal of Proteome Research</i> , <i>Molecular and Cellular Proteomics</i> , <i>Biochemistry</i> , <i>CAB Reviews</i> , <i>Journal of American Society for Mass Spectrometry</i> , <i>Natural Chemical Biology</i> , <i>Phytochemistry</i> and <i>Trends in Plant Sciences</i> .
2003 - Present	International Scientific Advisory Board, Plant Science Section.
2003 – 2006	Member of Danforth Center Controlled Substance Safety Committee
2006 – Present	Editorial Board, Scientific Journals International
2006 -Present	Review panel member, National Science Foundation, Multiuser Research Instrument (MRI).

- 2006 – Present Graduate Student Advisory Committee, Department of Botany and Plant Molecular and Cellular Biology (PMCB) Program
- 2007 Reviewer, United States Department of Agriculture, CRIS proposals
- 2007 Review Panel Member, UF Research Opportunity Incentive Seed Fund.
- 2007 ABC news, Science and Technology (Plant and Human Life)
- 2007 – Present Chair, Oversight Committee of UF Proteomics Core Facility
- 2007 – 2008 Seminar Committee, UF Plant Molecular and Cellular Biology Program.

Honors

- 1996 Outstanding Doctoral Graduate, Shanghai Education Bureau, China,
- 1997 Alexander-von-Humboldt Award, Albert-Ludwigs-Universitat Freiburg, Germany
- 1998 – 2001 Danish Research Council Grant, Royal Veterinary and Agricultural University, Denmark.
- 2006 Travel Award, College of Liberal Arts & Sciences, University of Florida.
- 2007 Honorary Professor, Heilongjian University, China,

Teaching and Other Activities:

Instructor of “Proteomics: Theory and Practice” and “Genomics and Bioinformatics” to graduate students, “Plant Physiology and Biochemistry” to undergraduate students; Member of the Genetics Institute Graduate Program and the Plant Molecular and Cellular Biology Graduate Program at University of Florida; Member of Faculty Search Committee, Seminar Committee and Greenhouse Committee; Supervisor and Judge of High School Student Science Fair; Biochemistry Lab host for Florida high school teachers and students; Guest lecturer of Plant Proteomics Technologies to graduate students in St. Louis University; Organizer of Proteomics Symposium; Member of the *International Membrane Protein Microarray Consortium*.

Recent Student Advisees:

Barbara Kahn, Courtney Morris, David Jia, Emily Wang, Gordon Wilson, Honglang Gu, Jeanne Speichinger, Jenine Finley, Jin Koh, Justin Goldsmith, Kern Vijayvargiga, Richard Collum, Ryan Walker, Shun Liang, Mengmeng Zhu, Mi Liu, Yan He.

B. Publications (from 45 total publications)

1. Alvarez, S., He, Y., **Chen, S.** (2008) Comparative investigations of glucosinolate-myrosinase system in *Arabidopsis* suspension cells and hypocotyls. ***Plant Cell and Physiology*** (*in press*)
2. **Chen, S.**, Sánchez Fernández, R., Lyver, E.R., Dancis, A., Rea, P.A. (2007) Functional half molecule ABC transporters from *Arabidopsis thaliana*: The ATM subfamily. ***Journal of Biological Chemistry*** 282, 21561-21571.
3. Yan, X.F., **Chen, S.** (2007) Regulation of plant glucosinolate metabolism. ***Planta*** 226, 1343-1352.
4. Sarry, J.*, **Chen, S.***, Collum, R., Liang, S., Peng, M., Lang, A., Yuan, C., Hippler, M., Rea P. (2007) Analysis of the vacuolar luminal proteome of yeast *Saccharomyces cerevisiae*. ***FEBS Journal*** 274, 4287-4305.
5. Dai, S., Yan, X.F., **Chen, S.** (2007) Proteomics of pollen development and germination. ***Journal of Proteome Research*** 6, 4556-4563.
6. Jez, J.M., Schachtman, D.P., Berg, R.H., Taylor, C.G., **Chen, S.**, Hicks, L.M., Jaworski, J.G., Smith, T.J., Nielsen, E., Pikaard, C.S. (2007) Developing a new interdisciplinary lab course for undergraduate and graduate students: Plant Cells and Proteins. ***Biochemistry and Molecular Biology Education*** 35, 410-415.
7. Zhu, J., Alvarez, S., Marsh, E., LeNoble, M.E., Cho, I.J., **Chen, S.**, Nguyen, H.T., Sivaguru, M., Wu, Y., Schachtman, D., Sharp, R.E. (2007) Changes in the Cell Wall Proteome in the Maize Primary Root in response to water deficit. II. Region-Specific Changes in the Water Soluble and Lightly Ionically-Bound Proteins. ***Plant Physiology*** 145, 1533-1548
8. **Chen, S.**, Harmon, A. (2006) Advances in plant proteomics. ***Proteomics*** 6, 5504-5516.

9. **Chen, S.** (2006) High throughput protein separation and mass spectrometry characterization. In *Plant Biotechnology Application Guide*, chapter 9. Chemical Industry Press, pp. 143-160.
10. **Chen, S.** (2006) Rapid protein identification using direct infusion nanoelectro-spray ionization mass spectrometry. *Proteomics* 6, 16-25.
11. Sheffield, J., Taylor, N., Fauquet, C., **Chen, S.** (2006) Cassava root proteome: protein identification and differential expression. *Proteomics* 6, 1588-1598 (**Cover**).
12. Alvarez, S., Goodger, J., Marsh, E., **Chen, S.**, Schachtman, D.P. (2006) The proteome of maize xylem sap and changes after drought stress. *Journal of Proteome Research* 5, 963-972.
13. Zhu, J., **Chen, S.**, Asirvatham, V., Schachtman, D.P., Wu, Y., Sharp, R.E. (2006) Cell wall proteome in the maize primary root elongation zone. I. Extraction and identification of water soluble and lightly ionically-bound proteins. *Plant Physiology* 140, 311-325.
14. Herman, E.M., Rotter, K., Premakumar, R., Elwinger, G., Bae, R., King, L.E., **Chen, S.**, Livingston, D.P. (2006) Additional freeze hardiness in wheat acquired by exposure to -3 °C is correlated with changes in physiology, structure, transcriptome and proteome. *Journal of Experimental Botany* 57, 3601-3618.
15. Yan, X., Wang, Y., Zhang, Y., Yu, T., Ma, M., Ju, S., **Chen, S.** (2005) Tissue-specific and environmental regulation of camptothecin and 10-hydroxy-camptothecin levels in *Camptotheca acuminata*. *Bot. Bull. Acad. Sin.* 46, 325-331.
16. Jez, J., Cahoon, B., **Chen, S.** (2004) *Arabidopsis thaliana* glutamate-cysteine ligase: Functional properties, kinetic mechanism and regulation of activity. *Journal of Biological Chemistry* 279, 33463-33470.
17. Maathuis, F.J.M., Filatov, V., Herzyk, P., Krijger, G.C., Axelsen, K.B., **Chen, S.**, Green, B.J., Li, Y., Madagan, K.L., Sánchez-Fernández, R., Forde, B.J., Palmgren, M.G., Rea, P.A., Williams, L.E., Sanders, D., Amtmann, A. (2003) Transcriptome analysis of root transporters reveals participation of multiple gene families in the response to cation stress. *Plant Journal* 35, 675-692.
18. Rea, P.A., Sanchez-Fernandez, R., **Chen, S.**, Peng, M., Klein, M., Geisler, M., Martinoia, E. (2003) Plant ABC Transporters. In: *Book ABC transporters from bacteria to humans*, SP Cole, K Kuchler, C Higgins, B Holland (eds), Academic Press, UK pp.335-356
19. **Chen, S.**, Glawishnig, E., Jorgensen, K., Naur, P., Jorgensen, B., Olsen, C.E., Rasmussen, H., Pickett, J.A., Halkier, B.A. (2003) CYP79F1 and CYP79F2 have distinct functions in the biosynthesis of aliphatic glucosinolates in *Arabidopsis*. *Plant Journal* 33, 923-937.
20. Petersen, B.L.,* **Chen, S.**,* Hansen, C., Halkier, B.A. (2002) Composition and content of glucosinolates in developing *Arabidopsis thaliana*. *Planta* 214, 562-571.
21. **Chen, S.**, Andereson, E. (2001) Update on glucosinolate metabolism and transport. *Plant Physiology and Biochemistry* 39, 743-758 (**Cover**).
22. **Chen, S.**, Petersen, B.L., Olsen, C.E., Shulz, A., Halkier, B.A. (2001) Glucosinolate uptake and long-distance transport in *Arabidopsis thaliana*. *Plant Physiology* 127, 194-201.
23. **Chen, S.**, Halkier, B.A. (2000) In vivo synthesis and purification of radioactive *p*-hydroxybenzyl-glucosinolate in *sinapis alba*. *Phytochemical Analysis* 11, 174-178.
24. Wittstock, U.*, **Chen, S.***, Halkier, B.A. (2000) Expression cloning of plasma membrane transporter proteins by screening for uptake of radiolabelled substrates. *Journal of Experimental Botany* 51, 955-960.
25. **Chen, S.**, Halkier, B.A. (2000) Characterization of glucosinolate transporter in *Brassica napus* leaf cells. *Journal of Biological Chemistry* 275, 22955-22960.
26. **Chen, S.**, Schopfer, P. (1999) Hydroxyl radical production in physiological reactions - a novel function of peroxidase. *European Journal of Biochemistry* 260, 726-735.
27. **Chen, S.**, Halkier, B.A. (1999) Functional Expression and Characterization of *Brassica napus* Myr1 myrosinase in *Saccharomyces cerevisiae*. *Protein Expression and Purification* 17, 414-420.
28. **Chen, S.**, Li, L., Jiao, X.Z. (1998) Effect of osmotic shock on protein phosphorylation in *Dunaliella salina* cells. *Journal of Integrative Plant Biology* 40, 126-131.
29. **Chen, S.**, Li, L., Yen, C.C., Xu, Z.K., Jiao, X.Z. (1997) Inositol phospholipid signal transduction system in *Dunaliella salina* and its function in osmotic shock. *Chinese Science* 42, 151-155.
30. **Chen, S.**, Li, L., Yen, C.C., Jiao, X.Z. (1996) Relationship of plasmalemma redox activity to K⁺ uptake by *Dunaliella salina* cells. *Journal of Integrative Plant Biology* 38, 295-301.

