

Jianfeng (Jay) XU

Associate Professor

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EMPLOYMENTS

- July 2013— Associate Professor, College of Agriculture and Technology, Arkansas State University, Jonesboro, AR
- August 2008—June 2013 Assistant Professor, Arkansas Biosciences Institute, and also College of Agriculture and Technology, Arkansas State University, Jonesboro, AR
- August 2006—August 2008 Research Associate, Cornell University, Ithaca, NY (Mentor: Dr. Dan Luo)
- July 2001—August 2006 Research Associate/Research Scientist, Department of Chemistry and Biochemistry/Edison Biotechnology Institute, Ohio University-Athens (Mentor: Dr. Marcia Kieliszewski)
- August 1998—June 2001 Postdoc, Department of Chemical Engineering, Ohio University-Athens (Mentor: Dr. Murray Moo-Young, visiting professor from University of Waterloo, Canada)
- March 1997—July 1998 Postdoc, Institute of Process Engineering, Chinese Academy of Sciences-Beijing (Mentor: Dr. Zhiguo Su)
- January 1998—June 1998 Engineer, Kai Zheng Biotechnology Company, Beijing, China

EDUCATION

- Ph.D —1997 Biochemical Engineering
Dalian University of Technology, Dalian, 116023, China
Thesis: *Process regulation and control of large-scale culture of Rhodiola Sachalinensis cells for the production of Salidroside*
- BS —1991 Environmental Engineering
Dalian University of Technology, Dalian, 116023, China
Thesis: *Determination of prior order and classification of pollutants with fuzzy mixed method*

RESEARCH INTERESTS

- | | |
|---------------------------------------|---|
| Bioprocess engineering and bioreactor | Renewable energy (Bioethanol and biodiesel) |
| Plant cell/tissue culture | Nano(bio)technology |
| Recombinant protein expression | Plant cell wall proteins |

HONORS/AWARDS

- Fellowship of ASU Summer Institute for Research Development, May, 2011
- BP Young Scientist Award, *13th International Biotechnology Symposium & Exhibition*, China, 2008.
- China National Postdoctoral Research Funding granted, December, 1997
- Xiang Fanglong Fellowship, Dalian University of Technology, October, 1995
- An-Gang Fellowship, Dalian University of Technology, June, 1994
- Excellent Graduate Student of Dalian University of Technology, July, 1991

INVITED LECTUERS

- Fermentation of Arkansas energy beets for Bio-ethanol production. 3rd Annual Renewable Energy Conference, Jonesboro, AR, November 5, 2012.

Hydroxyproline-*O*-glycosylated biopolymer carriers for a competitive plant cell bioproduction platform, 2012 Annual Arkansas Biosciences Institute Fall Research Symposium, Fayetteville, AR, October 23, 2012.

Bioprocessing engineering for the production of recombinant proteins and biofuels. 2010 Annual NSF EPSCoR meeting, Petit Jean Mountain, AR, August 15, 2010.

Plant cell culture for the production of recombinant proteins. 2009 Annual NSF EPSCoR meeting, Little Rock, AR, October, 2009.

Hydroxyproline-*O*-glycosylation code of plant cell wall proteins and its novel applications. University of Arkansas at Little Rock. Little Rock, AR, Jan 26, 2009.

Plant Cell Culture-A Powerful Platform for the Synthesis of Therapeutic Proteins and Secondary Metabolites. Arkansas Biosciences Institute, Jonesboro, AR, May 11, 2008.

High-Yields and Extended Serum Half-Life of Human Growth Hormone Expressed as Fusion Glycoproteins in Plant Cells. Ambrx, La Jolla, CA, May 9, 2008.

High-Yields and Extended Serum Half-Life of Therapeutic Proteins Expressed as Fusion Glycoproteins in Plant Cells. Fraunhofer USA CMB, Newark, DE, April 17, 2007.

Plant Cell/Tissue Culture for the Production of Valuable Products. Phyton Biotech., East Windsor, NJ, Jan 28, 2006.

RESEARCH GRANTS

1. NIH-SBIR I (1 R43 GM 093621-01)—\$151,190. Title: *A Novel Plant Cell Bio-Production Platform for Therapeutic Proteins*. June 15, 2010—May 30, 2013. Role: PI of ASU (grant is awarded to BioStrategy; I wrote the proposal).
2. DOE-MidSouth/Southeast Bioenergy Consortium —\$241,580. Title: *Algal oil and biofuels production from Arkansas agriculture biomass*. September, 2010—August 31, 2012. Role: PI of ASU subproject.
3. AR NIH-INBRE Summer Program—\$29,717. Title: *Rapid Synthesis of Complex Therapeutic Proteins with Cell-Free System*. May 15, 2012-July 30, 2012. Role: PI
4. Arkansas P3 Next Generation Sequencing Fund—\$5,088. Title: *Using transcriptoms to understand mechanism of self-flocculation of microalgae in culture*. May 1, 2011—December 31, 2011. Role: PI
5. ASU Faculty Research Fund—\$3,860. Title: *Growing Duckweed in Agriculture Wastewater for Producing Fuel Ethanol*. July 1, 2010—June 30, 2011. Role: PI
6. DOE-MidSouth/Southeast Bioenergy Consortium —\$158,580. Title: *Proposal to Develop Algal Biofuels*. September, 2008—August, 31, 2010. Role: Co-PI of ASU subproject
7. Laboratory Startup Funding (NSF EPSCoR and ABI)—\$200,000. August, 2008—Jun, 2011. Role: PI
8. Cornell CAT funding—\$50,000. Title: *Large-scale and low-cost protein productions without any living cell*. July 1, 2008—June 30, 2009. Role: Co-PI (I wrote the proposal).

COLLABORATORS

Marcia Kieliszewski —Ohio University;
 Pamela J. Weathers —Worcester Polytechnic Institute;
 Murray Moo-Young —University of Waterloo (Canada);
 Dan Luo —Cornell University;
 Qingfang He —University of Arkansas at Little Rock;
 Milen Georgiev—Leiden Univewrsity (The Netherlands)
 Fengwu Bai—Shanghai Jiaotong University (China)
 Julie Carrier, Joshua Sakon— University of Arkansas—Fayetteville
 Steven Green, Carole Cramer, Brett Savary, Maureen Dolan, Greg Phillips—Arkansas State University

SCIENTIFIC JOURNAL/GRANT PROPOSAL REVIEW

Journal manuscript review

- 1) *Journal of Biological Chemistry* (1)
- 2) *Applied Biochemistry and Biotechnology* (1)
- 3) *Biotechnology Advances* (2)

- 4) *Biotechnology Letters* (1)
- 5) *Biotechnology Progress* (3)
- 6) *Biotechnology and Bioprocess Engineering* (1)
- 7) *Bioprocess and Biosystems Engineering* (1)
- 8) *BMC Journal of Biotechnology* (2)
- 9) *Cell Biology and Toxicology* (1)
- 10) *International Journal of Environmental Science and Technology* (1)
- 11) *International Journal of Plant Physiology and Biochemistry (IJPPB)* (1)
- 12) *Journal of Bioprocessing & Biotechniques* (1)
- 13) *Plant Cell Reports* (3)
- 14) *PLoS One* (2)
- 15) *Process Biochemistry* (5)
- 16) *Small* (1)
- 17) *Waste and Biomass Valorization* (1)
- 18) *Transgenic Research* (1)

Editorial board member

- 1) *Journal of Bioremediation & Biodegradation*

Grant proposal review

- 1) *Ad Hoc review for European PLANT-KBBE (Knowledge-Based Bio-Economy)*, 2009.
- 2) *Peer-review panel for USDA-NIFA, Washington DC., 2010*
- 3) *Ad Hoc review for USDA-NIFA and NIH-SBIR, 2011*
- 4) *Peer-review panel for USDA-NIFA, Washington DC., 2012*
- 5) *Ad Hoc review for NIH-SBIR/STTR, 2012*

TEACHING

- 1) Topic of MBS program-Plant cell wall glycoproteins (MBS 712V-01)
- 2) Agricultural and Industrial Biotechnology (AGRI 4523/AGRI 5523)
- 3) Graduate Seminar-Research Orientation (AGRI 6351)
- 4) Recombinant Protein Expression (MBS 6251)

PUBLICATIONS

Peer-reviewed journal publications (: corresponding author)*

1. Ningning Zhang, Steven Green, Xumeng Ge, Brett Savary and **Jianfeng Xu***. Growing energy beet as an alternative bioenergy crop for fuel ethanol production. Submitted to *Bioresource Technology*. 2013
2. Maureen C. Dolan, Di Wu, Carole L. Cramer, **Jianfeng Xu***. Hydroxyproline-mediated O-glycosylation occurs in stages and enhances recombinant protein yields in plant-based transient expression systems. Submitted to *Process Biochemistry*. Returned for revision. 2013.
3. Ning Zhao, Yun Bai, Xinqing Zhao, **Jianfeng Xu**, Fengwu Bai. *Zymomonas mobilis* and its flocculating strain are superior to *Saccharomyces cerevisiae* as host to be engineered for fuel ethanol production from lignocellulosic biomass. Submitted to *Biotechnology Journal*. 2013.
4. Xuejin Zhang, Xiaofeng Xu, Ruilan Gao, Jianfeng Xu. *Rubus Parvifolius* L. Inhibited the Growth of Leukemia K562 Cells In Vitro and In Vivo. *Chinese Journal of Integrative Medicine*. In press, 2013.
5. Milen Georgiev, Elizabeth Agostini, Jutta Ludwig-Müller and **Jianfeng Xu**. Genetically transformed roots: from plant disease to biotechnology. *Trends in Biotechnology*. 2012, 30(10): 528-537. (*: All authors contributed equally to this paper)
6. Xumeng Ge, Ningning Zhang, Greg Phillips and **Jianfeng Xu***. Growing lemna minor in agricultural wastewater and converting the duckweed biomass to ethanol. *Bioresource Technology*, 2012, 124:485-488.
7. **Jianfeng Xu**, Maureen Dolan, Giuliana Medrano, Carole L. Cramer, Pamela J. Weathers. Green Factory: Plants as bioproduction platforms for recombinant proteins. *Biotechnology Advances*, 2012, 30(5):1171-1184.

8. Ganapathy Sivakumar, **Jianfeng Xu**, Robert W Thompson, Ying Yang, Paula Randol-Smith, Pamela J Weathers. Integrated green algal technology for bioremediation and biofuel. *Bioresource Technology*, 2012, 107:1-9.
9. Xumeng Ge, Steven Green, Ningning Zhang, Ganapathy Sivakumar and **Jianfeng Xu***. Eastern gamagrass as a promising cellulosic feedstock for bioethanol production. *Process Biochemistry*, 2012, 47:335-339.
10. **Jianfeng Xu*** and Marcia Kieliszewski. A novel plant cell bioproduction platform for high-yield secretion of recombinant proteins. *Methods Mol Biol.*, 2012, 824:483-500.
11. Xumeng Ge and **Jianfeng Xu***. Cell-free protein synthesis as a promising expression system for recombinant proteins. *Methods Mol Biol.*, 2012, 824:565-578.
12. Xumeng Ge, Dan Luo and **Jianfeng Xu***. Cell free protein expression under macromolecular crowding environments. *PLoS One*, 2011, 6(12): e28707.
13. **Jianfeng Xu*** and Marcia Kieliszewski. Enhanced accumulation of secreted human growth hormone by transgenic tobacco cells correlates with the introduction of an N-glycosylation site. *Journal of Biotechnology*, 2011, 154: 54-59.
14. Ying Yang, **Jianfeng Xu**, Daniel Vail and Pamela Weathers. *Ettlia oleoabundans* growth and oil production on agricultural anaerobic waste effluents. *Bioresource Technology*, 2011, 102(8): 5076-5082.
15. **Jianfeng Xu***, Xumeng Ge and Maureen Dolan. Towards High-Yield Production of Therapeutic Proteins with Plant Cell Suspension Culture. *Biotechnology Advances*, 2011, 29(3):278-299.
16. Ge, X., Burner, D. M., **Xu, J.**, Phillips, G., Sivakumar, G. Bioethanol Production from Dedicated Energy Crops and Residues in Arkansas. *Biotechnology Journal*, 2011, 6:66-73
17. Zhang, Liangmin, Thomas, Jacquelyn, **Xu, Jianfeng**, Rougeau, Ben, Sullivan, Michael, Reeve, Scott, Allen, Susan, Watanabe, Fumiya, Biris, Alexandru, Zhao, Wei. Controllable Third-Order Optical Nonlinearity of DNA Decorated Carbon Nanotube Hybrids. *Journal of Physical Chemistry C*, 2010, 114: 22697–22702.
18. Tan, L., Varnai, P., Lamport, D. T., Yuan, C., **Xu, J.**, Qiu, F., Cottrell, C., Kieliszewski, M. O-Hyp arabinogalactans of arabinogalactan proteins are beta-(1-6) linked repeats of beta-(1-3) trigalactosyl subunits with short bifurcated sidechains. *Journal of Biological Chemistry*, 2010, 285(32): 24575-24583.
19. **Jianfeng Xu**, Shigeru Okada, Li Tan, John J. Kopchick and Marcia J. Kieliszewski. Human growth hormone expressed in tobacco cells as a hydroxyproline glycoside fusion significantly secret into medium and has a prolonged circulating half life. *Transgenic Research*. 2010, 19(5): 849-867.
20. Michael Campolongo, Shawn Tan, **Jianfeng Xu** and Dan Luo. DNA Nanomedicine: Engineering DNA as a Polymer for Therapeutic and Diagnostic Applications. *Advanced Drug Delivery Reviews*. 2010, 62(6): 606-616
21. Fernandes, E. Soans, E, **Xu, J.**, Kieliszewski, M. J., Evans, S., Novel fusion proteins of Interferon alpha 2b cause growth inhibition and induce JAK-STAT signaling in melanoma. *Journal of Immunotherapy*. 2010, 33(5):461-466
22. Sivakumar, G., D.R. Vail, **J. Xu**, D. M. Burner, J. O. Lay, X. Ge, and P.J. Weathers. Bioethanol and biodiesel: Clean energy for future generations. *Eng Life Sci*. 2010, 10(1):8-18.
23. Weathers, P.J., Towler, M.J. and **Xu, J.** Bench to Batch: Advances in plant cell cultures for producing useful products. *Applied Microbiology and Biotechnology*. 2010, 85(5):1339-1351.
24. Park N, Kahn JS, Rice EJ, Hartman MR, Funabashi H, **Xu J**, Um SH and Luo D. (2009) High-yield cell-free protein production from P-gel". *Nature Protocol*. 2009, 4, 1759–1770.
25. Nokyoung Park, Soong Ho Um, Hisakage Funabashi, **Jianfeng Xu**, Dan Luo. A Cell-free Protein Producing Gel (Article). *Nature Materials*. 2009, 8: 432-437.
26. **Jianfeng Xu**, Li Tan, Derek T. A. Lamport, Allan Showalter and Marcia J. Kieliszewski. The O-Hyp glycosylation code in tobacco and Arabidopsis and a proposed role of Hyp-glycans in secretion. *Phytochemistry*. 2008, 69 (8): 1631-1640.
27. **Jianfeng Xu**, Li Tan, Kenneth Goodrum and Marcia Kieliszewski. High-yields and extended serum half-life of human interferon $\alpha 2$ expressed in tobacco cells as arabinogalactan-protein fusions. *Biotechnol Bioeng*. 2007, 97: 997-1008.
28. Marcia J. Kieliszewski and **Jianfeng Xu**, Synthetic genes for the production of novel Arabinogalactan-proteins and plant Gums. *Foods and Food Ingredients Journal of Japan*. 2006, 211: 32-37.

29. **Jianfeng Xu**^{*}, Elena Shpak, Tingyue Gu, Murray Moo-Young and Marcia Kieliszewski. Production of recombinant plant gum with tobacco cell culture in bioreactor and gum characterization. *Biotechnol Bioeng.* 2005, 90(5):578-588.
30. Wenxian Sun, **Jianfeng Xu**, Jie Yang, Marcia J. Kieliszewski and Allan Showalter. Expression and characterization of arabinogalactan proteins with a basic lysine-rich subdomain in *Arabidopsis*. *Plant Cell Physiol.* 2005, 46(6):975-984.
31. Fengwu Bai, Liping Wang, **Jianfeng Xu**, Jim Caesar, Darin Ridgway, Tingyue Gu, and Murray Moo-Young. Oxygen mass-transfer performance of low viscosity gas-liquid-solid system in a split-cylinder airlift bioreactor. *Biotechnol. Lett.* 2001, 23:1109-1113.
32. Dara O'Donnell, Liping Wang, **Jianfeng Xu**, Darin Ridgway, Tingyue Gu, and Murray Moo-Young. Enhanced heterologous protein production in *Aspergillus niger* through pH control of extracellular protease activity. *Biochem Eng J.* 2001, 8 (3): 187-193
33. **Jianfeng Xu**, Liping Wang, Darin Ridgway, Tingyue Gu and Murray Moo-Young. Increased heterologous protein production in *Aspergillus niger* fermentation through extracellular proteases inhibition by pelleted growth. *Biotechnol. Prog.* 2000, 16(2): 222-227
34. **Xu Jianfeng**, Ying Peiqing, Han Aiming, Su Zhiguo, Enhanced salidroside production by suspension culture of compact callus aggregates of *Rhodiola sachalinensis*: manipulation of plant growth regulators and sucrose. *Plant Cell Tiss & Org Cult.* 1999, 55(1): 53-58
35. **J.F. Xu**, Y. Sun, Z.G. Su, Enhanced peroxidase production by suspension culture of carrot compact callus aggregates. *J Biotechnol.* 1998, 65(2-3): 203-208
36. **Xu, Jianfeng**, Feng Pusun, Su Zhiguo, Compact callus aggregates suspension culture of *Rhodiola Sachalinensis* for improved production of salidroside. *Enzyme Microb Technol.* 1998, 23(1-2): 20-27
37. **Xu, Jianfeng**, Xie Jian, Han Aiming, Feng Pusun, Su Zhiguo, Kinetic and technical studies on large-scale culture of *Rhodiola Sachalinensis* compact callus aggregates with air-lift reactors. *J Chem Technol Biotechnol.* 1998, 72: 227-234
38. **J. F. Xu**, C. B. Liu, A. M. Han, P. S. Feng, Z. G. Su, Strategies for improvement of salidroside yield in suspension cell culture of *Rhodiola sachalinensis* A.Bor. *Plant Cell Rep.* 1998, 17(4): 288-293
39. **Xu J. F.**, Su Z. G., Feng P. S., Activity of tyrosol glucosyltransferase and improved salidroside production through biotransformation of tyrosol in *Rhodiola sachalinensis* cell culture. *J Biotechnol.* 1998, 61(1): 69-73
40. **Xu J. F.**, Xie J., Feng P. S., Su Z. G., Suspension nodule culture of the Chinese herb *Rhodiola sachalinensis* in an air-lift reactor: kinetics and technical characteristics. *Biotechnol Techniq.* 1998, 12(1):1-5
41. **Xu J. F.**, Ying P. Q., Su Z. G., Self-immobilized cell culture of *Taxus cuspidata* for improved taxol production. *Biotechnol Techniq.* 1998, 12(3): 241-244
42. Zhang Zhiqiang, Wei Xingui, Tian Guilan, **Xu Jianfeng**, Su Zhiguo, Improved HPLC method for taxol determination with Al₂O₃ solid-phase extraction. *Biotechnol Techniq.* 1998, 12(8): 633-636
43. **Xu J**, Xie J, Feng P, Su Z, Oxygen transfer characteristics in the compact callus aggregates of *Rhodiola sachalinensis*. *Chin J Biotechnol.* 1998, 14: 99-107.
44. Ying Peiqing, **Xu Jianfeng**, Su Zhiguo. Studies on characteristics and kinetics of *salvia miltiorrhiza* crown gall tissue culture. *Chin J Appl Environ Biol.* 1999, 5(5): 478-482. (In Chinese)
45. **Xu Jianfeng**, Xie Jie, Feng Pusun, Su Zhiguo, Study on kinetics and oxygen transfer characteristics of suspension culture of *Rhodiola sachalinensis* callus aggregates with air-life reactor. *Chem React Eng Technol.* 1998, 14(3): 305-312. (In Chinese)
46. Zhang Zhiqiang, **Xu Jianfeng**, Su Zhiguo. Decoloration and separation of Paclitaxel from *Taxus Yunnanensis* extract by macroreticular adsorbent resin. *Journal of Chemical Engineering of Chinese Universities.* 1999, 13(2):161-164. (In Chinese)
47. **Xu Jianfeng**, Xie Jian, Li Ning, Feng Pusun, Structured model for compact callus aggregate suspension culture of *Rhodiola sachalinensis*. *Journal of Dalian University of Technology.* 1999, 39(1):43-48. (In Chinese)

48. **Xu, Jianfeng**, Su Zhiguo, Feng Pusun, Production of salidroside through biotransformation of exogenous tyrosol by *Rhodiola sachalinensis* cell suspension culture. *Acta Botanica Sinica*. 1998, 40(11): 1034-1041. (In Chinese)
49. **Xu, Jianfeng**, Liu Chuanbin, Feng Pusun, Effects of medium pH decrease on salidroside release and cell viability in cell suspension culture of *Rhodiola sachalinensis* A.Bor. *Acta Botanica Sinica*. 1997, 39(11): 1020-1027. (In Chinese)
50. Xie Jian, **Xu Jianfeng**, Feng Pusun, Study on oxygen transfer characteristics within the compact callus aggregates of *Rhodiola sachalinensis*. *Chin J Biotechnol*. 1998, 14(2):160-165. (In Chinese)
51. **Xu J.**, Su Z., Feng P. Regulation of metabolism for improved salidroside production in cell suspension culture of *Rhodiola sachalinensis* A. Bor I: The effect of precursor. *Nature Product Research & Development* 1998, 10(2):8-13. (In Chinese)
52. **Xu Jianfeng**, Yin Peiqin, Feng Pusun, Advance on research and development of *Rhodiola sachalinensis* resources. *Zhong Cao Yao* 1998, 29(3):202-205. (In Chinese)
53. **Xu J.**, Su Z., Feng P., Regulation of metabolism for improved salidroside production in cell suspension culture of *Rhodiola sachalinensis* A. Bor II: The effect of elicitors. *Nature Product Research & Development* 1998, 10(3):6-11. (In Chinese)
54. Han Aiming, **Xu Jianfeng**, Feng Pusun, Effects of some factors on cell growth and salidroside accumulation in suspension cultures of *Rhodiola sachalinensis*. *Plant Physiol Comm*. 1997,33(1):30-33. (In Chinese)
55. **Xu Jianfeng**, Han Aiming, Feng Pusun, Growth and nutrients uptake kinetics and their stoichiometrical relations in *Rhodiola sachalinensis* A.Bor cell suspension culture. *Chin J Appl Environ Biol*. 1997,3(2):100-105. (In Chinese)
56. **Xu Jianfeng**, Han Aiming, Feng Pusun, Studies on kinetics and technique characteristics of *Rhodiola Sachalinensis* A. Bor callus suspension culture. *Chin J Biotechnol* 1996, 12(4): 460-465. (In Chinese)
57. **Xu Jianfeng**, Feng Pusun, Induction and culture of calli from *Rhodiola sachalinensis* A.Bor. *Chin J Appl Environ. Biol*. 1995, 1(1):19-25. (In Chinese)
58. Quan Xie, **Xu Jianfeng**, Yang Fenglin, Lang Peizheng, Determination of prior order and classification of pullants with fuzzy mixed method. *Journal of Dalian University of Technology*.1993, 33(4): 403-406. (In Chinese)

Book chapter

1. Ludwig-Müller, J., **Xu, J.**, Agostini, E. and Georgiev, M. *Advances in Transformed Root Cultures for Root Biofactory*. In: J. Lindenborn (Ed.), *Soil Biology*. Springer, Submitted in December, 2012.
2. Frederick, N., Zhang, N., Djioleu, A., Ge, X., **Xu, J.** and Carrier, D.J. “The effect of washing dilute acid pretreated poplar biomass on ethanol yields”. In: *Sustainable Degradation of Lignocellulosic Biomass - Techniques, Applications and Commercialization*. A. K. Chandel and S. S. da Silva (Eds), InTech Publishing. 2013. p105-118.
3. Hood, E., Cramer, C., Medrano, G. and **Xu, J.** “Protein Targeting: Strategic planning for Optimizing Protein Products through Plant Biotechnology”. In: *Plant biotechnology and agriculture: Prospects for the 21st century*. A. Altman and P.M (Eds), Hasegawa, Elsevier. 2011. p35-54
4. Bai, F., Zhao, Q. and **Xu, J.** “Immobilization Technology: Cells”. In: C.R. Thomas (Ed.), *Engineering Fundamentals in Biotechnology*. Springer. 2011. P477-489.
5. Cheng, W., Ding, L., Funabashi, H., Park, N., Um, S.H., **Xu, J.** and Luo, D. *Nucleic Acid Engineering- Towards Synthetic Biology*. In: *Systems biology and synthetic biology*. P. Fu and S. Panke (eds.), J.W. Wiley and Sons, Hoboken, NJ. March 2009. p 549-576.

Patents

1. Marcia Kieliszewski, **Jianfeng Xu** and Gary Meyer. Methods of producing peptides/proteins and peptides/proteins produced thereby. **U.S. Utility Patent**. Publication No. **US-20060026719**; **European Patent**. Publication No. **EP1711533**; **International Patent**. Publication No. **WO/2005/069845**.
2. Marcia Kieliszewski, **Jianfeng Xu**, John J, Kopchick and Shigeru Okada. Glycoproteins produced in plants and methods of their use. **U.S. Utility Patent**. Publication No. **US-20060148680**.

3. Marcia Kieliszewski, **Jianfeng Xu**, Stevens Timothy, and Dupree Paul. Method of predicting Hyp-glycosylation sites for protein expressed and secreted in plant cells, and related methods and products. **International Patent.** Publication No. **WO/2007/008708.**; U.S. **Utility Patent Pending.** Application No. **11/995, 063.**
4. Marcia Kieliszewski, **Jianfeng Xu** and Iver Cooper. Co-expression of proline hydroxylases to facilitate Hyp-glycosylation of proteins expressed and secreted in plant cells. **International Patent.** Publication No. **WO/2008/008766**; U.S. **PCT Patent Applications.** Application No. **60/746,141.**
5. Marcia Kieliszewski, **Jianfeng Xu.** Enhanced secretion of human growth hormone from transgenic tobacco cells by introduction of an N-Glycosylation site. U.S. **PCT Patent Applications.** Application No. **60/819, 557.**
6. Marcia Kieliszewski, **Jianfeng Xu**, Gary Meyer, Shigeru Okada, and John J, Kopchick. High-yields and extended serum half-life of human interferon alpha-2 and human growth hormone expressed in tobacco cells as arabinogalactan-protein fusion glycoproteins. U.S. **PCT Patent Applications.** Application No. **60/746,146.**

Meeting abstract and presentation

1. Ge, X., Luo, D., and **Xu, J.** Macromolecular crowding effects on cell-free protein synthesis are dependent on the concentration of free magnesium. Presented on the **2012 annual meeting of American Society of Cell Biology**, San Francisco, CA, December 15-19, 2012.
2. Ningning Zhang, Fabricio Medina-Bolivar, Brett Savary, **Jianfeng Xu.** Hairy Roots As a Unique Platform to Study Plant Hydroxyproline-*O*-Glycosylation Process. Presented on **the 2012 Annual ABI Research Symposium.** Fayetteville, AR, October 23, 2012.
3. Ge X and **Xu J.** Expression of *Acidothermus cellulolyticus* E1 catalytic domain on tobacco plant cell wall with hydroxyproline-*O*-glycosylation. Presented on the **2012 Arkansas ASSET Annual Meeting**, Springdale, AR, August 13-14, 2012.
4. **Jianfeng Xu** and Xumeng Ge. Growing self-flocculated microalgae for biofuel production. Presented on **the 2nd International Conference on Algal Biomass, Biofuels and Bioproducts.** San Diego, CA, June 20-13, 2012.
5. Ningning Zhang, Xumeng Ge, Brett Savary and **Jianfeng Xu.** Analysis and fermentation of juice from AR energy beets with a self-flocculating yeast. Presented on **the 3rd Annual Conference American Council for Medicinally Active Plants (ACMAP).** Jonesboro, AR, May 22-25, 2012.
6. Xumeng Ge and **Jianfeng Xu.** Self-flocculation of Microalgae in Anaerobic Digester Effluents. Presented on **the 3rd Annual Conference American Council for Medicinally Active Plants (ACMAP).** Jonesboro, AR, May 22-25, 2012.
7. **Jianfeng Xu** and Marcia Kieliszewski. Application of Hydroxyproline-*O*-Glycosylation Code for enhanced plant based production. Presented on the **50th Anniversary Meeting of Phytochemical Society of North America.** Kona, Hi, December, 2011.
8. Sivakumar, G., Gidden, J., **Xu, J.**, Phillips, G., Lay, J. Lipid, Monosaccharides and Vitamin E Chemistry of *Stichococcus bacillaris* strain siva2011: Source for Biodiesel and Value-added Products. **Presented on the 50th Anniversary Meeting of Phytochemical Society of North America.** Kona, Hi, December, 2011.
9. Xumeng Ge, Steven Green, Ningning Zhang, Ganapathy Sivakumar and **Jianfeng Xu.** Eastern gamagrass as a promising cellulosic feedstock for bioethanol production. Presented on the **Annual AIChE 2011 conference.** Minneapolis, MN, October, 2011.
10. **Jianfeng Xu** and Marcia Kieliszewski. Application of Hydroxyproline-*O*-Glycosylation Code for Enhanced Recombinant Protein Production In Plants and for Reconstruction of Plant Cell Wall for Improved Biomass Processability. Presented on the **Annual AIChE 2011 conference.** Minneapolis, MN, October, 2011.
11. Xumeng Ge, Ningning Zhang, Ganapathy Sivakumar, **Jianfeng Xu.** Growing Duckweed in Agriculture Wastewater for Fuel Ethanol Production. Presented on the **2011 Annual ABI Symposium.** Little Rock, AR, September, 2011.

12. Xumeng Ge, Steven Green, Ningning Zhang, Ganapathy Sivakumar and **Jianfeng Xu**. Eastern gamagrass as a promising cellulosic feedstock for bioethanol production. Presented on the **2011 Annual NSF EPSCoR meeting**. Heber Springs, AR, July, 2011.
13. Shigeru Okada, Sudha Sankaran, **Jianfeng Xu**, Marcia Kieliszewsk and John J. Kopchick. O-Linked Glycosylation of Growth Hormone Enhances its Plasma Half-Life with Full Retention of Bioactivity. Presented on **ENDO 2011: The 93rd Annual Meeting & Expo**. Boston, MA, June, 2011.
14. Xumeng Ge, Ningning Zhang, Ganapathy Sivakumar, Jianfeng Xu. Growing Duckweed in Agriculture Wastewater for Fuel Ethanol Production. Presented in **ASU 2011 Annual Renewable Energy Conference**. Jonesboro, AR, April, 2011.
15. Savary, B.J., J.K. Humphrey, S. Green, **J. Xu**, E.E. Hood, P.W. Armah, and P. Patel. Plant Biomass Research, Education, and Public Outreach at the Arkansas State University's College of Agriculture and Technology. Presented on **Biomass South 2010**, Memphis, TN, October, 2010.
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