

Jianfeng (Jay) XU

Research Professor at Arkansas Biosciences Institute
Tenured at College of Agriculture, Arkansas State University
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EMPLOYMENTS

July 2020 — present Professor, Arkansas Biosciences Institute and College of Agriculture, Jonesboro, AR

July 2013 — June 2020 Associate Professor, Arkansas Biosciences Institute and College of Agriculture, Jonesboro, AR

August 2008 — June 2013 Assistant Professor, Arkansas Biosciences Institute and College of Agriculture, Arkansas State University, Jonesboro, AR

August 2006 — August 2008 Senior 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
Dissertation: *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

Biomolecular engineering	Renewable energy (Bioethanol)
Bioprocess engineering and bioreactor	Nano(bio)technology
Recombinant protein expression	Plant cell wall biochemistry

TEACHING

- 1) Advance Cell Biology (MBS 6213/BIO 6113)
- 2) Topic of MBS program-Plant cell wall glycoproteins (MBS 712V-01)
- 3) Applied Modern Biotechnology (AGRI 4523/AGRI 5523)
- 4) Graduate Seminar-Research Orientation (AGRI 6351)
- 5) Technique-Recombinant Protein Expression (MBS 6251)
- 6) Technique-Flow Cytometry and Cell Sorting (MBS 6251)

INVITED LECTUERS

- Engineering biomolecules in plant cells for biomedical and industrial applications. Higher Education Subcommittee of the Arkansas Legislative Council, Little Rock, AR, May, 2022.
- Plant cell-secreted growth factors for ex vivo production of red blood cells. 2021 Southeast Regional IDEA Conference, San Juan, Puerto Rico, November, 2021.
- Biomolecular engineering based on plant cell wall structural glycoproteins and their applications in plant molecular farming and cell wall reconstruction. Huibei University of Arts and Sciences, Xiangyang, China, November 23, 2017.
- Plant cell wall polysaccharides and glycoproteins: applications for value-added bioproducts production and biomolecular engineering. Zhejiang Academy of Agricultural Sciences, Hangzhou, China, November 21, 2017
- Engineering the plant cell wall with novel "designer" glycopeptides as a molecular carrier for cell wall-modifying enzymes. The 3rd International Conference on Agricultural and Biological Sciences, Qingdao, China, June 27-29, 2017
- Production of biofuels and value-added products from plant biomass. Delta Research Consortium Policy Convening. Memphis, TN, February, 2017.
- Directing the expression of thermostable glycohydrolases in planta and designer glycopeptide engineering technology for sustainable sugar beet post-harvest processing. The Plant and Animal Genome XXIV Conference. San Diego, CA, January 2016.
- Directed expression of an endo-arabinanase in planta with a designer molecular carrier and colon-endothelium functioning by arabino-oligosaccharide products. The 2015 International Chemical Congress of Pacific Basin Societies. Honolulu, HI, December, 2015.
- Engineering "designer" glycopeptides as a molecular carrier for cell wall-modifying enzymes expressed in planta. Seminar at University of Arkansas at Little Rock. Little Rock, AR, November, 2015.
- Hydroxyproline-*O*-glycosylated biopolymer carriers for competitive plant cell and tissue bioproduction platforms. 2013 In Vitro Biology Meeting, Providence, RI, June, 2013.
- Engineering hydroxyproline-*O*-glycosylated peptide carriers in plant cells and tissues for enhanced production of recombinant proteins. 2013 Annual NSF AR EPSCoR meeting, Little Rock, AR, April, 2013.
- Self-flocculating yeast for enhanced fermentation for the production of cellulosic ethanol. University of Arkansas at Fayetteville, March, 2013.
- 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 (invited guest speaker), Fayetteville, AR, October 23, 2012.
- Bioprocessing engineering for the production of recombinant proteins and biofuels. 2010 Annual NSF AR EPSCoR meeting, Petit Jean Mountain, AR, August 15, 2010.
- Plant cell culture for the production of recombinant proteins. 2009 Annual NSF AR 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-R15—\$395,242. Title: *Engineering novel designer biologics in plant cells for oral treatment of ulcerative colitis*. September 17, 2021—June 30, 2024. Role: PI
2. DOE-SBIR— \$249,990 (A-State subaward). Title: *An innovative technology for cost-effective enzymatic lignocellulose deconstruction using in-planta enzyme engineering*. February 16, 2022—February 15, 2023. Role: PI
3. Arkansas Biosciences Institute—\$69,918. Title: *Plant cell-produced designer biomolecules as edible vaccines for poultry*. July 1, 2021—June 30, 2023. Role: PI
4. NIH-INBRE Research Development Grant—\$351,281. Title: *Oral delivery of plant cell-encapsulated biopharmaceuticals for treatment of IBD*. May 1, 2020—Dec 31, 2022. Role: PI
5. AWS PRODUCTS Inc —\$23,475. Title: *Evaluate the effects of AWS products on plant growth and production*. Nov 1, 2019—Oct 31, 2020. Role: PI
6. NIH-NIGMS—\$157,321. Title: *Partnerships for biomedical research in Arkansas*. Oct 1, 2019—Sep 31, 2020. Role: Co-PI from A-State) (\$84,174 subaward to A-State)
7. Arkansas Biosciences Institute—\$99,941. Title: *Engineering cell wall-deficient plant cells for enhanced therapeutic protein production*. Jan 1, 2019—Dec 31, 2020. Role: PI
8. NIH-INBRE Research Development Grant—\$328,366. Title: *Plant cell-derived growth factors for ex vivo mass production of red blood cells*. Jan 1, 2018—Apr 30, 2020. Role: PI
9. Arkansas Biosciences Institute—\$69,901. Title: *Genome engineering of tobacco BY-2 cell towards high-yield production of therapeutic proteins*. Jul 1, 2017—Jun 30, 2018. Role: PI
10. National Science Foundation (NSF)-BBE program—\$443, 154. Title: *Engineering novel designer glycopeptides as molecular carriers for boosting protein secretion in plant cell culture*. July 1, 2016—Jun 30, 2019. Role: PI
11. NIH-INBRE Pilot Project grant—\$54,294. Title: *Plant Cell-Secreted Cytokines Tailored to Hematopoietic Stem Cell Applications*. September 1, 2016— April 30, 2017. Role: PI
12. Arkansas Biosciences Institute—\$99,774. Title: *Engineering novel designer molecular carriers for high-yield secretion of therapeutic proteins from plant cell culture*. Jul 1, 2015—Jun 30, 2017. Role: PI
13. USDA-AFRI—\$150,000. Title: *Engineering designer biopolymers for reconstructing plant cell walls to improve biomass processability*. January 1, 2015—December 31, 2018. Role: PI
14. Arkansas Science and Technology Authority (ASTA)—\$82,961. Title: *Novel glycopeptides as molecular carriers for engineering plant cell wall*. September 19, 2014—December 18, 2016. Role: PI
15. A-STATE Provost's Scholar Award Faculty Seed Grant—\$5,500. Title: *Synthetic gene technology for dissecting the roles of plant cell wall glycoproteins in plant defense to stresses*. November 1, 2014—June 30, 2015. Role: PI
16. NSF-EPSCoR Development Grant—\$83,980. Title: *Development of separations chemistry to isolate and identify bioactive components in rice bran fractions for characterizing their colon-promoting benefits*. August 1, 2014—July 31, 2015. Role: Co-PI
17. USDA-AFRI—\$149,977. Title: *Establishing the function and availability of bioactive components from whole-grain rice varieties for colon-specific health benefits*. February 1, 2014—January 31, 2016. Role: Co-PI
18. Beet Sugar Development Foundation—\$5,500. Title: *Development of enzyme technologies for reducing energy in pulp processing*. July 1, 2012—June 30, 2014. Role: Co-PI
19. NIH-SBIR I (1 R43 GM 093621-01)—\$151,190. Title: *A novel plant cell bio-production platform for therapeutic proteins*. June 15, 2010—December 31, 2013. Role: PI of A-STATE (grant is awarded to BioStrategy; I wrote the proposal).
20. 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.

21. 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
22. 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
23. ASU Faculty Research Fund—\$3,860. Title: *Growing duckweed in agriculture wastewater for producing fuel ethanol*. July 1, 2010—June 30, 2011. Role: PI
24. DOE-MidSouth/Southeast Bioenergy Consortium —\$158,580. Title: *Proposal to develop algal biofuels*. September, 2008—August, 31, 2010. Role: Co-PI of ASU subproject
25. NSF Arkansas EPSCoR—\$200,000. Title: *Bioprocess engineering for enhanced production of secreted recombinant proteins from plant cell cultures*. August, 2008—Jun, 2011. Role: PI
26. 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).
27. Arkansas Department of Higher Education- SURF program—\$8,000 (twice, 2×\$4,000). January 1, 2013—July 31, 2013; and January 1, 2014—July 31, 2014. Role: Faculty mentor.

COLLABORATORS

Marcia Kieliszewski —Ohio University;
 Pamela J. Weathers, Jeannine M. Coburn, Glenn Gaudette —Worcester Polytechnic Institute (WPI);
 Murray Moo-Young —University of Waterloo (Canada);
 Dan Luo —Cornell University;
 Qingfang He —University of Arkansas at Little Rock;
 Milen Georgiev—Leiden University (The Netherlands);
 Julie Carrier — University of Tennessee at Knoxville
 Vibha Srivastava, Joshua Sakon, Ralph Henry— University of Arkansas at Fayetteville
 Steven Green, Carole Cramer, Brett Savary, Maureen Dolan, Greg Phillips—Arkansas State University

SCIENTIFIC JOURNAL/GRANT PROPOSAL REVIEW

Journal manuscript review

- 1) *ACS Sustainable Chemistry & Engineering*,
- 2) *Acta Physiologiae Plantarum*
- 3) *Applied Biochemistry and Biotechnology*
- 4) *Annals of Botany*
- 5) *BioEnergy Research*
- 6) *Biomass & Bioenergy*
- 7) *Biotechnology Advances*
- 8) *Biotechnology and Bioengineering*
- 9) *Biotechnology Journal*
- 10) *Biotechnology Letters*
- 11) *Biotechnology Progress*
- 12) *Biotechnology and Bioprocess Engineering*
- 13) *Bioprocess and Biosystems Engineering*
- 14) *BMC Journal of Biotechnology*
- 15) *Cell Biology and Toxicology*
- 16) *Energy*
- 17) *Fuel*
- 18) *International Journal of Environmental Science and Technology*
- 19) *International Journal of Plant Physiology and Biochemistry (IJPPB)*
- 20) *International Journal of Phytoremediation*
- 21) *In Vitro Cellular & Developmental Biology - Plant*
- 22) *Journal of Biological Chemistry*
- 23) *Journal of Biotechnology*
- 24) *Journal of Bioprocessing & Biotechniques*

- 25) *Plant Cell Reports*
- 26) *Plant Cell, Tissue and Organ Culture*
- 27) *Plant Biotechnology Journal*
- 28) *PLoS One*
- 29) *Process*
- 30) *Process Biochemistry*
- 31) *Scientific Reports*
- 32) *Small*
- 33) *Waste and Biomass Valorization*
- 34) *Transgenic Research*

Editorial board member

- 1) *Life - Plant Science Section*
- 2) *International Journal of Plant Physiology and Biochemistry*

Grant proposal review

- 1) *Ad Hoc review for Ohio program-CHILE, 2017*
- 2) *Ad Hoc review for FONDECYT program-CHILE, 2017*
- 3) *Ad Hoc review for Science Foundation Ireland, 2016*
- 4) *Peer-review panel (Study Section) for NIH-SBIR, San Francisco, 2015*
- 5) *Ad Hoc reviewer for the Ohio State University, Ohio Agricultural Research and Development Center (OARDC) Research Enhancement Competitive Grants Program, 2013*
- 6) *Ad Hoc review for NIH-SBIR/STTR, 2012*
- 7) *Peer-review panel for USDA-NIFA, Washington DC., 2012*
- 8) *Ad Hoc review for USDA-NIFA, 2011*
- 9) *Ad Hoc review for NIH-SBIR, 2011*
- 10) *Peer-review panel for USDA-NIFA, Washington DC., 2010*
- 11) *Ad Hoc review for European PLANT-KBBE (Knowledge-Based Bio-Economy), 2009.*

PUBLICATIONS

Peer-reviewed journal publications

1. Ramsey, A.; Akana, L.; Miyajima, E.; Douglas, S.; Gray, J.; Rowland, A.; Sharma, K. D.; **Xu, J.**; Xie, J. Y.; Zhou, G. L., CAP1 (cyclase-associated protein 1) mediates the cyclic AMP signals that activate Rap1 in stimulating matrix adhesion of colon cancer cells. *Cellular Signaling* 2023, 104, 110589.
2. Uddhab Karki, Tristen Wright, **Jianfeng Xu**. High yield secretion of human erythropoietin from tobacco cells for ex vivo differentiation of hematopoietic stem cells towards red blood cells. *Journal of Biotechnology*, 2022, 355:10-20. <https://doi.org/10.1016/j.jbiotec.2022.06.010>.
3. Sepideh Mohammadhosseinpour, Linh-Chi Ho, Lingling Fang, **Jianfeng Xu**, Fabricio Medina-Bolivar. Arachidin-1, a prenylated stilbenoid from peanut, induces apoptosis in triple-negative breast cancer cells. *International Journal of Molecular Sciences*, 2022, 23(3): 1139.
4. Uddhab Karki, Hong Fang, Wenzheng Guo, Carmela Unnold-Cofre, **Jianfeng Xu**. Cellular engineering of plant cells for improved therapeutic protein production. *Plant Cell Reports*, 2021, 40:1087–1099.
5. Xiaoting Wang, Uddhab Karki, Hasara Abeygunaratne, Carmela Unnold-Cofre, **Jianfeng Xu**. Plant cell-secreted stem cell factor stimulates expansion and differentiation of hematopoietic stem cells. *Process Biochemistry*. 2021, 100: 39-48. <https://doi.org/10.1016/j.procbio.2020.09.029>
6. Nhi V Phan, Tristen Wright, M. Masrur Rahman, **Jianfeng Xu**, Jeannine M. Coburn. In Vitro Biocompatibility of Decellularized Cultured Plant Cell-Derived Matrices. *ACS Biomaterials Science & Engineering*, 2020, 6(2): 822-832. doi: 10.1021/acsbiomaterials.9b00870.
7. Hong Fang, Tristen Wright, Jia-Rong Jinn, Wenzheng Guo, Ningning Zhang, Xiaoting Wang, Ya-Jane Wang, **Jianfeng Xu**. Engineering Hydroxyproline-O-Glycosylated Biopolymers to Reconstruct the Plant Cell Wall for Improved Biomass Processability. *Biotechnology and Bioengineering*, 2020, 117(4): 945-958. doi: 10.1002/bit.27266
8. Haitao Zhang, Auburn Ramsey, Yitong Xiao, Uddhab Karki, Jennifer Xie, **Jianfeng Xu**, Thomas Kelly,

- Soichiro Ono, Guolei Zhou. Dynamic phosphorylation and dephosphorylation of CAP1 (Cyclase-Associated Protein 1) by antagonistic signaling through CDK5 and cAMP are critical for the protein functions in actin filament disassembly and cell adhesion. *Molecular and Cellular Biology*, 2020, 40: e00282-19. <https://doi.org/10.1128/MCB.00282-19>.
9. Ningning Zhang, Tristen Wright, Xiaoting Wang, Brett Savary, **Jianfeng Xu***. Production of a thermostable endo-1,5- α -L-arabinanase in *Pichia pastoris* for enzymatically releasing functional oligosaccharides from sugar beet pulp. *Applied Microbiology and Biotechnology*, 2020, 104:1595–1607 doi: 10.1007/s00253-019-10238-x.
 10. Xumeng Ge, **Jianfeng Xu***. Macromolecular crowding effects on transcription and translation are regulated by free magnesium ion. *Biotechnology and Applied Biochemistry*. 2020, 67: 117-122 doi: 10.1002/bab.1827.
 11. Ningning Zhang, Tristen Wright, Paige Caraway, **Jianfeng Xu***. Enhanced secretion of human α 1-antitrypsin expressed with a glycosylation module in tobacco BY-2 cell culture. *Bioengineered*, 2019, 10(1):87-97
 12. Ningning Zhang, Tristen Wright, Xiaoting Wang, Brett Savary, **Jianfeng Xu***. Engineering designer glycomodules for boosting secretion of recombinant proteins in tobacco hairy root culture and studying hydroxyproline-*O*-glycosylation process in plants. *Plant Biotechnology Journal*. 2019, 17(6):1130-1141
 13. Ningning Zhang, Maureen Dolan, Di Wu, Gregory C. Phillips, **Jianfeng Xu**. Dramatic secretion of recombinant protein expressed in tobacco cells with a designer glycopeptide tag is highly impacted by medium composition. *Plant Cell Reports*, 2016, 35(12): 2513-2522.
 14. Zhang, N., M. Gonzalez, B.J. Savary, **J. Xu***. High-yield secretion of recombinant proteins expressed in tobacco cell culture with a designer glycopeptide tag: Process development. *Biotechnology Journal*. 2016, 11:497-506.
 15. Xuping Shentu, Nannan Liu, Gu Tang, Yukinori Tanaka, Kozo Ochi, Jianfeng Xu, and Xiaoping Yu. Improved antibiotic production and silent gene activation in *Streptomyces diastatochromogenes* by ribosome engineering. *The Journal of Antibiotics*. 2016, 69:406-410.
 16. Xu-Ping Shentua, Dan-Ting Lia, **Jian-Feng Xu**, Liang Shea, Xiao-Ping Yu. Effects of fungicides on the yeast-like symbiotes and their host, *Nilaparvata lugens* Stål (Hemiptera: Delphacidae). *Pesticide Biochemistry and Physiology*. 2016, 128: 16-21.
 17. Xu-Ping Shentu, Xiao-Feng Yuan, Wei-Ping Liu, **Jian-Feng Xu** and Xiao-Ping Yu. Cloning and Functional Analysis of tri14 in *Trichoderma brevicompactum*. *American Journal of Biochemistry and Biotechnology*. 2015, 11(3):169-175.
 18. **Jianfeng Xu***, Ningning Zhang. On the way to commercializing plant cell culture platform for biopharmaceuticals: Present status and prospect. *Pharmaceutical Bioprocessing*, 2014, 2 (6): 499-518.
 19. Noaa Frederick, Ningning Zhang, Xumeng Ge, **Jianfeng Xu**, Mathew Pelkki, Elizabeth Martin, Julie Danielle Carrier. Poplar (*Populus deltoides* L.): The effect of washing pretreated biomass on enzymatic hydrolysis and fermentation of ethanol. *ACS Sustainable Chemistry & Engineering*, 2014, 2(7): 1835–1842.
 20. Xuping Shentu, Weiping Liu, Xiaohuan Zhan, Yipeng Xu, **Jianfeng Xu**, Xiaoping Yu, Chuanxi Zhang. Transcriptome sequencing and gene expression analysis of *Trichoderma brevicompactum* under different culture conditions. *PLoS One*, 2014, 9(4): e94203.
 21. Ningning Zhang, Steven Green, Xumeng Ge, Brett Savary and **Jianfeng Xu***. Ethanol fermentation of energy beets by self-flocculating and non-flocculating yeasts. *Bioresource Technology*. 2014, 155:189-197.
 22. Maureen C. Dolan, Di Wu, Carole L. Cramer, **Jianfeng Xu***. Hydroxyproline-*O*-glycosylated peptide tags enhance recombinant protein yields in tobacco transient expression. *Process Biochemistry*, 2014, 29(3): 490-495.
 23. Ning Zhao, Yun Bai, Chenguang Liu, Xinqing Zhao, **Jianfeng Xu**, Fengwu Bai. Flocculating *Zymomonas mobilis* is a promising host to be engineered for fuel ethanol production from lignocellulosic biomass. *Biotechnology Journal*, 2014, 9(3): 362-371.
 24. 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*, 2014, 20(1):36-42.

25. 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)
26. 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.
27. **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.
28. 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.
29. 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.
30. **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.
31. Xumeng Ge and **Jianfeng Xu***. Cell-free protein synthesis as a promising expression system for recombinant proteins. *Methods Mol Biol.*, 2012, 824:565-578.
32. Xumeng Ge, Dan Luo and **Jianfeng Xu***. Cell free protein expression under macromolecular crowding environments. *PLoS One*, 2011, 6(12): e28707.
33. **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.
34. 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.
35. **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.
36. 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
37. 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*, 2010, 114: 22697–22702.
38. Tan, L., Varnai, P., Lampert, 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.
39. **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.
40. 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
41. 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
42. 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.
43. 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.
44. 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.
45. Nokyoung Park, Soong Ho Um, Hisakage Funabashi, **Jianfeng Xu**, Dan Luo. A Cell-free Protein Producing Gel (Article). *Nature Materials*. 2009, 8: 432-437.

46. **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.
47. **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. *Biotechnology and Bioengineering*. 2007, 97: 997-1008.
48. 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.
49. **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. *Biotechnology and Bioengineering*. 2005, 90(5):578-588.
50. 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.
51. 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.
52. 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
53. **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
54. **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
55. **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
56. **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
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