CURRICULUM VITAE

X. Margaret Liu, Ph.D.

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UPDATED: August 12th, 2022

CITIZENSHIP: US Citizen

RANK/TITLE

Title:	Professor (Tenured)
Department:	Department of Chemical and Biomolecular Engineering, Comprehensive Cancer Center
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EDUCATION

Year	Degree	Institution
2005	Ph.D. Chemical & Biomolecular Eng.	The Ohio State University
2000	M.S. Biochemical Engineering	Tianjin University
1997	B.S. Chemical Engineering	Shandong University
1997	B.S. Computer Science & Eng. (Minor)	Shandong University

EMPLOYMENT

2022-	Professor, Comprehensive Cancer Center, Department of Chemical and Biomolecular Engineering, Ohio State University, Columbus, OH
2016-2022	Associate Professor, Department of biomedical Engineering, School of Engineering The University of Alabama at Birmingham, Birmingham, AL
2012-2016	Assistant Professor, Department of Chemical and Biological Engineering Adjunct Assistant Professor, Department of Biological Science The University of Alabama, Tuscaloosa, AL
2007-2011	Sr. Scientist, Project and R&D Lead, Cell Culture and Cell Line, PD-Direct Department, Life Technologies, Frederick, MD
2006-2007	Engineer, Project and Team Leader, Cell Culture Process Development Lonza, Baltimore, MD
2005-2006	Scientist, Cell Culture Process Development EMD Pharmaceuticals Inc. (Merck KGaA), Billerica, MA

PROFESSIONAL SOCIETIES AND MEMBERSHIPS:

2020-	Member of The Ohio State University Comprehensive Cancer Center (OSUCCC)
2020-	Member of Pelotonia Institute for Immuno-Oncology (PIIO) at OSU
2020-	Member of Center for Cancer Engineering at OSU
2018-	Member of American Association for Cancer Research (AACR)
2016-	Biomedical Engineering Society (BMES)

2017-2020 American Heart Association (AHA) Peer Review Member
2017- Member of UAB Comprehensive Cancer Center (CCC), Member of UAB Comprehensive Cardiovascular Center (CCVC), Committee member of UAB Comprehensive Flow Cytometry Core (CFCC)
2003-2005 American Chemical Society (ACS)
2001- American Institute of Chemical Engineers (AIChE)

NATIONAL/INTERNATIONAL COUNCILS AND COMMITTEES

2022 NIH Immuno-Oncology Fellowship, NIH DT Study Section
2022 NSF GRFP Review Panel, NSF RECODE Review Panel
2021 NIH NANO Study Section, NIH Special Emphasis Panel-Nadeem NCI Study Section, NIH IMAT Study Section, NIH CSR Immuno-Oncology Fellowship Study Section, NIH IMST15 SBIR-STTR Study Section
2021 NSF Panel Future Biomanufacturing, NSF GRFP Review Panel, NSF SBIR Proposal Review Panel (Pharmaceutical Manufacturing), NSF SBIR/STTR Panel (Therapeutic Molecules)
2020 NSF Proposal Review Panel (Future Biomanufacturing); NSF SBIR Proposal Review Panels (Pharmaceutical Technologies; Synthetic Biology and Fermentation; COVID-19 DCL; Cell Engineering and Lab Tool; Therapeutic Molecules I; NSF GRFP Proposal Review Panel
2020 NIH IMAT R21/R33 Study Section
2019 NIH SBIR Study Section (IMST15, IMST15-19)
2019 NSF SBIR/STTR Proposal Review Panels (Cell Tissue Manufacturing; Drug Discovery Computational; Cell and Biologics Manufacturing); NSF GRFP Proposal Review Panel
2018 NSF SBIR/STTR Proposal Review Panel (Cell and Biologics Manufacturing)
2018-2019 AHA Innovative Project Award Cardiac Sciences Proposal Review Panels
2017-2019 AHA RCB Innovative Project Award Proposal Review Panel
2017 NSF SBIR/STTR Proposal Review Panel (Cell and Biologics Manufacturing)
2017 NSF BBE CBET Proposal Review Panel
2017-2018 American Heart Association (AHA) Basic Cell - Regenerative Cell Biology Committee Spring Peer Review Cycle
2012-2016 Chair of oral and poster sessions, International AIChE annual meeting, Division 15 Food, Pharmaceutical, and Bioprocessing Engineering, Call for paper, review and select abstract, and chair multiple sessions
2014-2015 Program chair (director), International AIChE annual meeting, Subdivision 15a and program co-chair of subdivision 15b, Established 4 sessions by collaborating with industry and University of Minnesota (2014)
2014-2015 Program co-chair, International AIChE annual meeting, created new “Topical - Sustainable Food Production” for divisions 15 and 12 by collaborating with University of Connecticut and University of California, Davis
2012 Chair of two sessions, International Bioenergy workshop, Review abstracts and chair sessions
2021- Perform evaluation of internal promotion package

EDITOR, EDITORIAL BOARD AND REVIEWER

Editor:

2021- Frontiers in Chemical Engineering (Associate Editor, Specialty section of Frontiers in Biochemical Engineering)
2020- Engineering in Life Sciences (Section Editor)

Editorial Board Member:

2017- The Scientific Pages of Bioengineering (Editorial board member)
2015- Journal of Biomedical Engineering and Bioinformatics (Editorial board member)
2015- Future Science Open (Editorial board member)
2015- Journal of China Chemical Engineering (Editorial board member)
2015- Journal of Biosimilars (Editorial board member)
2015- DovePress (Editorial board member)
2013-2015 Current Biotechnology (Editorial board member)
2012-2018 Austin Biomedical Engineering
2012-2015 Journal of Biopharmaceutical Bioprocessing

Reviewer: Caners, American Journal of Oncology, Tissue Engineering, OncoTargets and Therapy, Cancer Letters, Cancer Medicine, Engineering in Life Science, Biochemical Engineering, Biotechnology and Bioengineering, Biotechnology Journal, Current Biotechnology, Current Medicinal Chemistry, Journal of Biotechnology, Frontiers in Cell and Developmental Biology, Applied Biochemistry and Biotechnology, Bioprocess and Biosystems Engineering, Biotechnology for Biofuel, Chemical Engineering Journal, Chinese Journal of Chemical Engineering, Dover Medical Press, Electrophoresis, Energies, Environmental Science & Technology, International Journal of Hydrogen Energy, International Journal of Microbiology Research, International Journal of Nanomedicine, Journal of Biomedical Engineering and Bioinformatics, Journal of Biosimilars, Journal of industrial Microbiology and Biotechnology, Journal of Proteomics, MABS, Metabolic Engineering, Molecular Biotechnology, Molecular Biosystems, Process Biochemistry, The Open Biotechnology, Transport and Separation Processes

UNIVERSITY ACTIVITIES AND SERVICE

2022- CBE graduate committee member at OSU
2018-2022 Faculty Council, School of Medicine
2020-2021 Perform evaluation of internal promotion package
2020-2022 CCFC Committee Member
2019 School of Engineering Dean Search Committee
2017-2019 Dean's representative on the School of Engineering Undergraduate Committee
2019-2021 UAB GBS interviewer
2017-2022 Faculty facilitator of Graduate School GRD 717 course
2017-2020 Weekly departmental seminar organizer, Department of Biomedical Engineering, UAB
2017-2022 Committee chair/member of PhD students, Department of Biomedical Engineering, UAB
2017-2022 Mentor undergraduate researchers, UAB
2017-2021 Undergraduate advising, Department of Biomedical Engineering, UAB
2017 Mentor of departmental summer research program of high school students, Department of Biomedical Engineering, UAB
2017 Mentor of CORD's Summer Science Institute (high school) or Blazing to Biomedical Careers (BBC; community college) student intern
2017 Panelist at ALA-WSL, Women Student Leader Conference, Birmingham, AL 35229
2016-2022 Graduate student committee member, support graduate student recruiting, prepare the BME graduate recruiting brochure, Department of Biomedical Engineering, UAB
2017-2018 Judge of CCC symposium, Birmingham, AL
2017 Judge of poster presentation, Annual Biomedical Engineering Research Symposium, Birmingham, AL
2016 Judge of oral presentation session, Southern AIChE conference, Tuscaloosa, AL
2015-2016 Seminar organizer, Department of Chemical and Biological Engineering, The University

of Alabama, Invite and host departmental seminar speakers, organize their seminars and arrange their travel

2014-2016 Advisor, Omega Chia Epsilon (OXE), The University of Alabama, Advise the Tao chapter of OXE student organization by selecting members and meeting with members

2013-2016 Support the undergraduate recruitment, Meet with the prospective high school students and their family members, introduce the department, curriculum, and research, and answer their questions

2013-2014 Chair, Graduate Recruitment Committee, Department of Chemical and Biological Engineering (ChBE), The University of Alabama, Lead and support the graduate students recruiting work by attending BMES and AIChE graduate recruitment fairs, and recruit students from other universities

2013-2014 Member, Graduate Recruitment Committee, Department of Chemical and Biological Engineering (ChBE), The University of Alabama, Support the graduate students recruiting work by attending AIChE graduate recruitment fairs

2012-2016 Faculty member of UA NSF Research Experiences for Undergraduates (REU), The University of Alabama, Senior member of the REU proposal, mentor of eight REU students by advising students' research and conference presentations

2012-2016 Committee Chair/Member of Graduate Students, The University of Alabama, Served on the qualifying exam, pre-defense and final defense committee for 9 graduate students

2012-2016 Interviewer of multiple faculty candidates, Department of Chemical and Biological Engineering, The University of Alabama, Interview the faculty candidates

HONORS AND AWARDS

2022 SeulHee Kim, a PhD student in the laboratory, received AHA graduate fellowship, University of Alabama at Birmingham, Birmingham, AL

2019-2020 UAB BRIDGE research award, University of Alabama at Birmingham, Birmingham, AL

2020 Kai Chen, a PhD student in the laboratory, received Blazer fellowship, University of Alabama at Birmingham, Birmingham, AL

2019 SeulHee Kim and Yingnan Si, PhD students in the laboratory, received Blazer fellowship, University of Alabama at Birmingham, Birmingham, AL

2019 Ashier Kahn-Krell, a PhD student in the laboratory, received AHA graduate fellowship, University of Alabama at Birmingham, Birmingham, AL

2018 Jianfa Ou, a PhD student in the laboratory, received travel award to present on BEMES conference, University of Alabama at Birmingham, Birmingham, AL

2016 Outstanding Faculty Award, University of Alabama, Tuscaloosa, AL

2015 Reichhold-Shumaker Professorship, University of Alabama, Tuscaloosa, AL

2015 RGC Level 2 Award, University of Alabama, Tuscaloosa, AL

2014 System Research Collaborative Award, University of Alabama, Tuscaloosa, AL

2012 RGC Level 1 Award, University of Alabama, Tuscaloosa, AL

2011 Life Technologies Bronze Award, Life Technologies, Frederick, MD

2010 R&D and NPI Excellent Award, Life Technologies, Frederick, MD

2010 R&D Excellence Award, Life Technologies, Frederick, MD

2010 R&D Excellence Award, Life Technologies, Frederick, MD

2008 New Idea Award, Life Technologies (Invitrogen), Frederick, MD

2008 R&D Excellence Award, Life Technologies (Invitrogen), Frederick, MD

2008 Customer Excellence Award, Life Technologies (Invitrogen), Frederick, MD

2005 Alumni Graduate Research and Scholarship, The Ohio State University, Columbus, OH

2005 Outstanding Graduate Student, The Ohio State University, Columbus, OH

2003-2004 CPBR Research Fellowship, The Ohio State University, Columbus, OH

2001-2002 Graduate Fellowship, The Ohio State University, Columbus, OH

TEACHING EXPERIENCES

2017-2021 BME 672/772 Cellular Therapy, 3 hr., Fall
2017-2022 BME 472/572 Industrial Bioprocessing and Biomanufacturing, 3 hr., Spring
2017-2022 BME 698/798 Non-Dissertation Research, 6-9 hr., Fall and Spring
2017-2022 BME 699/799 Dissertation Research, 6-9 hr., Fall and Spring
2019-2022 BME 289/389/489 Undergraduate Research, 1-6 hr.
2017-2020 BME 401/496/601/701 weekly research seminar, 1 hr., Spring and Fall
2016 CHE 354 Chemical Reaction Engineering, 3 hr., Summer
2016 CHE 551 Advanced Thermodynamics, 3 hr., Spring
2015 CHE 492/592 Industrial Biotechnology and Biopharmaceutical, 3 hr., Fall
2014-2015 CHE 321 Basic Chemical Engineering Unit Operation Lab, 2 hr., 2-4 sessions, Spring
2014 CHE 304 Fluid Flow Operation, 3 hr., 2 sessions, Fall
2014 CHE 325 Metabolic Engineering, 1 hr., Honors forum, co-instructor, Fall
2012-2016 CHE 491/498/598/698 Special Problem (Research), 1-6 hr.
2013-2014 CHE 445 Intro Biochemical Engineering, 3 hr., Guest lecture
2014 CHE 482 Chemical Process Design II, 3 hr., Guest lecture, Fall

GRANT SUPPORT (updated on August 12th, 2022)

ACTIVE

1R01CA262028-01A1 (Liu, Zhou, Yang; MPI) 06/10/2022 - 05/31/2027
NIH/NCI
"Combine mitochondrial-targeted gene therapy and synthetic lethal chemotherapy to treat triple-negative breast cancer"
Role: Contact PI

W81XWH2110066 (Liu; PI) 01/15/2021 - 01/14/2024
DoD BCRP
"A targeted mitochondrial luminoptogenetic gene therapy to treat triple negative breast cancer"
Role: PI

1R01CA238273-01A1 (Liu, Liu; MPI) 01/01/2020 - 12/31/2025
NIH/NCI
"Synergistic targeted therapy of antibody-drug conjugates for triple-negative breast cancer"
Role: MPI

1R01CA242917-01A1 (Liu, Liu, Wang; MPI) 07/01/2020 - 06/30/2025
NIH/NCI
"Identifying a new biological target for breast cancer therapy that contributes to disparities for African-American women"
Role: MPI

1R21CA256151-01A1 (Sztul & Liu; MPI) 12/09/2021 - 11/30/2023
NIH/NCI
"Targeted neuroendocrine cancer therapy using Verrucarin A"
Role: MPI

DoD PCRP PC190819 (RLiu, PI) 10/01/2020 - 09/30/2023
DoD BCRP
"Targeting the CD24 signaling for lethal metastatic prostate cancer therapy"
Role: Co-investigator

R01 HL156581-01A1 (Zhou, PI) 12/01/2022 - 11/30/2026
NIH/NHLBI
"Delineate the pathophysiological effect of cardiomyocyte-specific mitochondrial stress"
Role: Co-investigator

PUBLICATION AND PATENT

PATENTS (*contact inventor, total of 8 patents filed)

1. **Liu, X.***, Ou, J., Si, Y., Zhou, L., Zhang, J., Jaskula-Sztul, R., Chen, H., Watt, J. Antibody-drug conjugate (ADC) for neuroendocrine cancer targeted therapy. Utility patent. TH Docket No. 222104-1670. Serial No. 17/283,326. Filed on 04/07/2021. PCT/US2019/055145. Filed on 06/08/2021.
2. **Liu, X.***, Zhou, L., Zhang, J., Ernst, P., Xu, N. Mitochondrial optogenetics-based gene therapy to treat multiple cancers. Utility patent. Docket No. 222104-1640. Serial No. 17/055,812. Filed on 11/16/2020.
3. **Liu, X.***, Zhou, L. Novel anti-CD276 monoclonal antibody to target breast cancer. Provision patent. TH Docket No. 222119-8380. Serial No. 63/125,176. Filed on 12/14/2021.
4. **Liu, X***. Anti-CD47 monoclonal antibody for breast cancer and other cancers. Provision patent. Docket No. 222119-8450. Serial No. 63/229,807. Filed on 08/05/2021.
5. **Liu, X.***, Ou, J., Zhang, J., Zhou, L., Si, Y. Stirred-tank bioproduction of T cells. Docket No. 222119-8050. Provisional patent filed on 05/24/2018.
6. Dempsey, J., Wu, F., **Liu, X.M.**, Ravnikar, P., Donahue-Hjelle, L., and Gorfien, S. Methods for Impacting Cell Metabolism in Cell Culture Media. LTC Docket No. LT00421 PRO, Serial No. 61/613,448, filed on March 20, 2013.
7. Slade, P., Hajivandi, M., Piras, G., **Liu, X.**, Koch, D., Hutanu, D., Bartel, C., Gorfien, S., Agnew, B. Secretome Monitoring Using Click Chemistry. Serial No. 61/492,290, filed on June 01, 2011.
8. Setterquist, R., Schageman, J., **Liu, X.M**. Cellular RNA Transcriptome Profiles. Serial No. 61/483,605, filed on May 06, 2011.

JOURNAL PAPERS AND BOOK CHAPTER (*corresponding author, total of 64 manuscripts published)

1. Guan J, Chen K, Si Y, Kim T, Zhou Z, Kim S, Zhou L, **Liu, XM***. Process improvement of adeno-associated virus (AAV) production. Frontiers in Biochemical Engineering. 4: 830421. 2022. doi: 10.3389/fceng.2022.830421.
2. Si Y, Chen K, Ngo HG, Guan JS, Zhang Y, Zhou Z, Totoro A, Zhou L, **Liu XM***. Dual-targeted EV to deliver therapy for triple-negative breast cancers treatment. Pharmaceutics. 14: 146-159. 2022.
3. Chen K, Si Y, Guan J, Kim S, Kim T, Zhou Z, Shan L, Willey C, Zhou L, **Liu, XM***. Targeted extracellular vesicles delivered verrucarin A to treat glioblastoma. Biomedicines. 10: 130-144. 2022.
4. Si Y, Zhang Y, Guan JS, Ngo HG, Totoro A, Singh AP, Chen K, Xu Y, Yang ES, Zhou L, Liu R, **Liu XM***. Anti-CD47 monoclonal antibody-drug conjugate: a targeted therapy to treat triple-negative breast cancers. Vaccines. 2021. 9: 882-895. https://doi.org/10.3390/vaccines9080882.
5. Si Y, Zhang Y, Ngo HG, Guan JS, Chen Kai, Wang Q, Singh AP, Xu Y, Zhou L, Yang ES, **Liu XM***. Targeted liposomal chemotherapies to treat triple-negative breast cancer. Cancers. 2021. 13(15): 3749-3763. https://doi.org/10.3390/cancers13153749.
6. Chen K, Si Y, Ou J, Guan JS, Kim S, Ernst P, Zhang Y, Zhou L, Han X, **Liu XM***. Antibody-drug conjugate to treat meningiomas. Pharmaceuticals. 2021. 14: 427-439. https://doi.org/10.3390/ph14050427.
7. Ernst P, Chen K, Tang Y, Kim S, Guan J, He J, Xie M, Zhang J.J, **Liu X**, Zhou L. Investigation into the difference in mitochondrial-cytosolic calcium coupling between adult cardiomyocyte and hiPSC-

CM using a novel multifunctional genetic probe. Pflügers Arch - Eur J Physiol. 2021. 473(3):447-459. doi: 10.1007/s00424-021-02524-3.

8. Kahn-Krell AM, Pretorius D, Ou J, Fast V, Litovsky S, Berry J, **Liu X***, **Zhang J***. Bioreactor Scalable Suspension Culture: Differentiation and Production of Cardiomyocyte Spheroids from Human Induced Pluripotent Stem Cells. Frontiers in Bioengineering and Biotechnology. 2021. 9: 674260. doi: 10.3389/fbioe.2021.674260.
9. Si Y, Melkonian AL, Curry KC, Xu Y, Tidwell M, Liu M, Zaky AF, **Liu XM***. Monoclonal antibody-based cancer therapies. *C J Chem Eng.* 2020. 29 (2): 301-307. DOI:10.1016/j.cjche.2020.
10. Si Y, Guan J, Xu Y, Chen K, Kim S, Zhou L, Jaskula-Sztul R, **Liu XM***. Dual-targeted exosomes to facilitate combined therapies for neuroendocrine cancer treatment. *Pharmaceutics.* 2020. 12:1079-1091. doi: 10.3390/pharmaceutics12111079.
11. Si Y, Xu Y, Guan J, Chen K, Kim S, Yang E, Zhou L, **Liu XM***. Anti-EGFR Antibody-drug Conjugate for Triple Negative Breast Cancer Therapy. *Engineering in Life Sciences.* 2020 DOI:10.1002/elsc.202000027.
12. Si Y, Kim S, Ou J, Lu Y, Ernst P, Chen K, Whitt J, Carter A, Bibb J, Markert J, Bibb J, Chen H, Zhou L, Jaskula-Sztul R, **Liu XM*** Anti-SSTR2 Antibody-drug Conjugate for Neuroendocrine Tumor Therapy. *Cancer Gene Therapy.* 2020. 28: 799-812. https://doi.org/10.1038/s41417-020-0196-5.
13. Kim S, Song J, Ernst P, Latimer MN, Ha CM, Goh KY, Ma W, Rajasekaran NS, Zhang J, **Liu X**, Prabhu S, Qin G, Wende AR, Young ME, Zhou L. MitoQ regulates redox-related non-coding RNAs to preserve mitochondrial network integrity in pressure overload heart failure. *Am J Physiol Heart Circ Physiol*. 2020 318(3):H682-H695. PMID: 32004065.
14. Si Y, Kim S, Zhang E, Tang Y, Jaskula-Sztul R, Markert JM, Chen H, Zhou L, **Liu X***. Targeted exosomes for drug delivery: biomanufacturing, surface tagging, and validation. *Biotechnology J. 2020.* 15: 1900163-1900174.
15. Ou J, Bao T, Ernst P, Si Y, Wu H, Zhou L, Yang S, **Liu X***. Intracellular metabolism analysis of Clostridium cellulovorans via modeling integrating proteomics, metabolomics and fermentation. *Process Biochemistry.* 2020. 89: 9-19.
16. Guenter R, Aweda T, Matos D, Jang S, Whitt J, Cheng Y-Q, **Liu X**, Chen H, Lapi S, Jaskula-Sztul R. Overexpression of somatostatin receptor type 2 (SSTR2) in neuroendocrine tumors for improved [^{68}Ga]DOTATATE imaging and treatment. *Surgery.* 2020. 167(1): 189-196.
17. Herring B, Whitt J, Aweda T, Ou J, Guenter R, Lapi S, Berry J, Chen H, **Liu X**, Rose B, Jaskula-Sztul R. A Growth Model of Neuroendocrine Tumor Surrogates and the Efficacy of a Novel Somatostatin-Receptor Guided Antibody-Drug Conjugate: Perspectives on Clinical Response? *Surgery.* 2020. 167(1): 197-203. doi: 10.1016/j.surg.2019.04.073.
18. Ernst P, Xu N, Song J, Qu J, Goldberg M, Chen H, Zhang J, Rourke B, **Liu X**, Zhou L. Precisely control mitochondrial membrane potential with light to manipulate cell fate decisions. *Biophysical Journal.* 2019. 117(4):631-645. doi: 10.1016/j.bpj.2019.06.038.
19. Guenter R, Aweda T, Whitt J, Chang A, Cheng Y, **Liu X**, Chen H, Lapi S, Jaskula-Sztul R. Pulmonary carcinoid surface receptor modulation using histone deacetylase inhibitors. *Cancers.* 2019. 11(6): 767-780.
20. Ou J, Si Y, Tang Y, Salzer G, Lu Y, Kim S, Qin H, Zhou L, **Liu X***. Novel Biomanufacturing Platform for Large-scale and High-quality Human T Cells Production. *Journal of Biological Engineering*. 2019. 13: 34-46.
21. Xu N, Ou J, Si Y, Goh K, Flanigan D, Han S, Yang Y, Yang S, Zhou L, **Liu X***. Proteomics insight into the production of monoclonal antibody. *Biochemical Engineering Journal.* 2019. 145: 177-185.
22. Wang Y, Li X, Liu W, Li B, Hu F, Wang L, **Liu X**, Cui R, Liu R* MicroRNA-1205, encoded on chromosome 8q24, targets EGLN3 to induce cell growth and contributes to risk of castration-resistant prostate cancer. *Oncogene.* 2019.
23. Wu L, Yi B, Wei S, Yao D, He Y, Naik G, Bae S, **Liu X**, Yang W, Sonpavda G, Liu R*, Wang, L*. Losses of Foxp3 and Tsc1 Accelerate Prostate Cancer Progression through a Synergistic

Transcriptional and Post-translational Regulation of c-MYC. *Cancer Research.* 2019. 75(8):1703-1713.
24. Goh K, He L, Song J, Jinno M, Rogers A, Sethu P, Halade G, Soorappan R, **Liu X**, Prabhu S, Darley-Usmar V, Wende A, Zhou L. Mitoquinone ameliorates pressure overload-induced cardiac fibrosis and left ventricular dysfunction in mice. *Redox Biology*. 2019. 21:101100.
25. Liu Z, Che P, Mercado J, Hackney J, Friedman G, Zhang C, You Z, Ding Q, Kim K, Li H, **Liu X**, Markert J, Nabors B, Gillespie G, Zhao R, Han X. Characterization of iPSCs derived from low grade gliomas revealed early regional chromosomal amplifications during gliomagenesis. *Journal of Neuro-Oncology.* 2018 Nov 20. doi: 10.1007/s11060-018-03047-1.
26. Ou J, Si Y, Goh K, Yasui N, Guo Y, Song J, Wang L, Jaskula-Sztul R, Fan J, Zhou L, Liu R, **Liu X***. Process development of antibody-drug conjugation production for cancer treatment. *PLOS ONE.* 2018.
27. Yang R, Ernst P, Song J, **Liu X**, Sabine H, Wang S, Zhang J, Zhou L. Mitochondrial-mediated Oxidative CaMKII Activation Induces Early After depolarizations in Guinea Pig Cardiomyocytes: An in Silico Study. *Journal of American Heart Association. JAHA*. 2018 7(15):e008939.
28. Chen T, Guo Y, Shan J, Zhang J, Shen X, Guo J*, **Liu X***. Vector Analysis of Cytoskeletal Structural Tension and the Mechanisms that Underpin Spectrin-Related Forces in Pyroptosis. *Antioxidants & Redox Signaling.* 2018. DOI: 10.1089/ars.2017.7366.
29. Ou J, Xu N, Ernst P, Ma C, Bush M, Goh KY, Zhao J, Zhou L, Yang S-T, **Liu X***. Process engineering of cellulosic n-butanol production from corn-based biomass using *Clostridium cellulovorans*. *Process Biochemistry.* 2017. 62: 144-150. 2017.
30. **Liu X***, Ma C, Zhou L. Targeted cancer therapy. *Pharmaceutical Bioprocessing.* 2017. 5(2) 025-027.
31. Xu N, Ma C, Ou J, Sun W, Zhou L, Hu H, **Liu X***. Comparative Proteomic Analysis of Three Chinese Hamster Ovary (CHO) Host Cells. *Biochemical Engineering Journal.* 2017. PII: S1369-703X(17)30123-7.
32. Yang ST and **Liu X***. Chapter 8. Metabolic Process Engineering for Biochemicals and Biofuels Production. New Biotechnologies for Increased Energy Security. CRC Press. Boca Raton, FL. Editor Juan Carlos Serrano-Ruiz. 2015. (**Book chapter**).
33. Xie C, Liu F, Dong X, Wang Y, **Liu XM**, Sun Y. Modulation effect of acidulated human serum albumin on Cu^{2+}-mediated amyloid β-protein aggregation and cytotoxicity under a mildly acidic condition. *Journal of Inorganic Biochemistry.* 171, 67-75. 2017.
34. Xu N, Liu M, **Liu XM***. Chapter 6. Pharmacology, Pharmacokinetics, and Pharmacodynamics of Antibodies. *Biosimilar.* John Wiley & Sons, Inc. New Jersey. 2016. (**Book chapter**).
35. Ma C, Ou J, Xu N, Yang ST, **Liu XM***. Rebalancing Redox to Improve Biobutanol Production by *Clostridium tyrobutyricum*. *Bioengineering.* 3(2), doi: 10.3390/bioengineering3010002. 2016.
36. Xu N, Ou J, Gilani AK, Zhou L, **Liu XM***. High-Level Expression of Recombinant IgG1 by CHO K1 Platform. *Frontiers of Chemical Science & Engineering.* 9(3), 376-380. 2015.
37. Ma C, Ou J, McFann S, Miller M, **Liu XM***. High production of butyric acid by *Clostridium tyrobutyricum* mutant. *Frontiers of Chemical Science & Engineering.* DOI 10.1007/s11705-015-1525-3. 9(3) 369-375. 2015.
38. Chen J, **Liu X**, Wie D, Chen G. High yields of fatty acid and neutral lipid production from cassava bagasse hydrolysate (CBH) by heterotrophic *Chlorella protothecoides*. *Bioresource Technology.* 191: 281-290, 2015.
39. Ou J, Ma C, Xu N, Du Y, **Liu XM***. Review: High Butanol Production by Regulating Carbon, Redox and Energy in Clostridia. *Frontiers of Chemical Science & Engineering.* DOI 10.1007/s11705-015-1622-6. 9(3) 317-323. 2015.
40. Xu N, Ma C, Sun W, Wu Y, **Liu XM***. Achievements and Perspectives in Host Cell Engineering. *Pharmaceutical Bioprocessing*. 3(4): 285-292. 2015.
41. Ma C, Kojimab K, Xu N, Mobley J, Zhou L, Yang ST, **Liu XM***. Comparative proteomics analysis of high n-butanol producing metabolically engineered *Clostridium tyrobutyricum*. *Journal of Biotechnology.* 193, 108-119. 2015.

42. Sun Y, Liu N, Wang Z, **Liu X**, Yu L. Characterization of novel mixed-mode protein adsorbents fabricated from benzoyl-modified polyethyleneimine-grafted Sepharose. CHROMA. *Journal of Chromatography.* 1372, 157-165. 2014.
43. Zhou L, Xu N, Sun Y, **Liu XM***. Cancer Treatment Using Targeted Biopharmaceuticals. *Cancer Letters.* 352, 145-151. 2014.
44. **Liu X*** and Zhou L. The Application of Omics in Targeted Anticancer Biopharmaceuticals Development. *Austin Journal of Biomedical Engineering.* 1(1), 8-15. 2014.
45. Lu C, Ma C, **Liu X***. High-Productivity and Low-Cost Biobutanol Production by Integrated Process Development. *International Journal of Innovative Research in Science & Engineering.* 2(3). ISSN 2347-3207. 2014.
46. Yang ST and **Liu X***. Metabolic Process Engineering for Biochemicals and Biofuels Production. *Journal of Microbial and Biochemical Technology.* 6(2), 1-4. 2014.
47. **Liu X***, Yang ST, Zhou L. The Application of Omics in Pharmaceutical Bioprocessing. *Journal of Biopharmaceuticals Bioprocessing.* 2(1), 1-4. 2014.
48. Yang ST and **Liu X***. Cell culture process for Biologics manufacturing: recent development and trends. *Journal of Biopharmaceuticals Bioprocessing.* 1(2), 133-136. 2013.
49. Lan T, D Wei, Yang ST, **Liu X***. Enhanced production of lignocellulases by *Trichoderma viride* in a rotating fibrous bed bioreactor. *Bioresource Technology.* 133, 125-182. 2013.
50. Dong W, Yang ST, **Liu X***. Butyric acid production from sugarcane bagasse hydrolysate by *Clostridium tyrobutyricum* immobilized in a fibrous-bed bioreactor. *Bioresource Technology.* 129, 553-560. 2013.
51. Dhulipala P, Reddy H, **Liu XM**, Shannon B, Saubourin M, Piras G, Barrett B, Hassett R, Gorfien S. Media selection for successful limiting dilution cloning of CHO cells. *BioProcess International.* 2011.
52. Ravnikar P, **Liu XM**, Liu J, Williams-Wright T, Wu F. Novel cell lines for bioprocessing: friend or foe? *ESACT Proceeding Paper.* 2010.
53. **Liu X***, Liu J, Williams T, Lee J, Lio P, Donahue-Hjelle L, Ravnikar P, Wu F. Protein production improvement in fed-batch culture using high osmolarity resistant CHO cells. *BioProcess International.* 2010. 8(4), 68-76.
54. Alexander P, Rudolph D, Underwood S, Desai S, **Liu X***. Optimizing microbial fermentation and mammalian cell culture: an overview. *BioProcess International.* 2007. 5(4), 16-24.
55. Yang S, **Liu X**, Zhang Y. *Metabolic Engineering.* p73-118, 2006. (**Book Chapter**).
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CONFERENCE PRESENTATIONS AND INVITED TALK *(Total of 78 abstracts published and 2 abstracts submitted)*

1. Chen K, Si Y, Kim S, Zhou Z, Zhou L, **Liu XM**. Targeted extracellular vesicle to deliver combined chemotherapies to treat cancers. AACR annual meeting. New Orleans. April 8-13, 2022.
2. Si Y, Chen K, Kim S, Zhou Z, Zhou L, **Liu XM**. CD276/CD47-targeted antibody-drug conjugates to treat triple-negative breast cancers. AACR annual meeting. New Orleans. April 8-13, 2022.
3. Si Y, Kim S, Guan JS, **Liu XM**. Targeted Exosomal Chemotherapies for Cancer Treatment. 8th International Conference of Cancer and Radiology. Virtual meeting, Oct 6-9, 2021.
4. Kahn-Krell A, Pretorius D, Ou J, Litovsky S, **Liu XM**, Zhang J. Suspension Differentiation of Cardiomyocyte Spheroids Improves Quality and Yields. AHA conference. Nov 13-15, 2021.
5. Chen K, Zhang Y, Si Y, Wang, Q, Ngo HG, Zhou L, **Liu XM**. Targeted Therapy to Treat Meningiomas. BMES Annual Meeting 2021. Virtual meeting, Oct 6-9, 2021.
6. Si Y, Xu, Y, Chen K, Kim K, Zhou L, **Liu X**. Targeted Therapy for Triple Negative Breast Cancer. AIChE Annual Meeting 2020, San Francisco, CA
7. Si Y, Kim K, Zhou L, **Liu X**. Development of Targeted Exosomes for Drug Delivery. AIChE Annual Meeting 2020, San Francisco, CA
8. Si Y, Kim K, Zhou L, **Liu X**. Targeted Therapy to Treat Neuroendocrine Cancer. 2020, BMES, Virtual Meeting, Oct 14-14, 2020
9. Guenter R, Si Y, Kim S, Frederick D, Boos R, Chen H, Zhou L, Sztul R, and **Liu XM.** Novel Anti-SSTR2 Antibody-Targeted Therapy for Neuroendocrine Cancers. AIChE Annual Meeting 2019, Orlando, FL.
10. Si Y, Dang N, Kim S, Zhou L, Han X, Liu R, **Liu X.M.** Antibody Drug Conjugate to Treat Triple Negative Breast Cancer. AACR Annual Meeting 2019, Atlanta, GA.
11. Si Y, Xu N, Ou J, Flanigan D, Song J, Zhou L, **Liu X.M.** Efficient Expression of Anti-CD20 Monoclonal Antibody Using CHO Cell. BMES Annual Meeting 2018, Atlanta, GA.
12. Si Y, Ou J, Flanigan D, Song J, Zhou L, Liu R, Wang L, **Liu X.M.** Novel Antibody-Drug-Conjugate Development for Breast Cancer Treatment. BMES Annual Meeting 2018, Atlanta, GA.
13. Ou J, Xu N, Si Y, Goh K, Ernst P, Zhou L, **Liu X.M.** Proteomics Guided Process Engineering for Anti-HER2 Antibody Production. AIChE Annual Meeting, Pittsburgh, PA.
14. Ou J, Si Y, Zhou L, **Liu X.M**. Manufacturing of Large-Scale T-Lymphocytes Culture in Novel Bioreactor System. BMES Annual Meeting 2018, Atlanta, GA.
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16. P. Ernst, N. Xu, K. Goh, B. O'Rourke, J. Zhang, **M.X. Liu**, and L. Zhou. Optogenetic-induced Mitochondrial Membrane Potential Depolarization and Targeting Cell Death. AHA. 2018.
17. Whitt, J., Aburjania, Z., Ou, J., Hong, W., **Liu, X.M.**, Chen, H., and Jaskula-Sztul, R. Targeting Synaptic Vesicle 2 Proteins for Treating Medullary Thyroid Cancer. Birmingham, AL. 2nd annual SAS meeting. Sep 21-22, 2017.
18. Ernst, P., Xu, N., Goh, K., O'Rourke, B., Zhang, J., **Liu, M.X.**, Zhou, L. Optogenetic-induced Mitochondrial Membrane Potential Depolarization and Targeting Cell Death. Anaheim, CA. AHA. Nov 11-15, 2017.
19. Xu, N., Ernst, P., Goh, K.Y., Zhou, L., **Liu, X.M.** A Novel method for simultaneous measurement of cytosolic and mitochondrial calcium in excitable cells. Phoenix, AZ, BMES, Oct 11-14, 2017.
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21. Xu, N., Ma, C., Goh, K.Y., Ou, J., Zhou, L., and **Liu, X.** Comprehensive Proteomic Analysis of High Productivity CHO Cells. Minneapolis, MN, AIChE, Oct 29 - Nov 3, 2017.

22. Ou, J., Xu, N., Ma, C., Ernst, P., and Liu, X.M. A computational modeling to integrate multi-Omics in *Clostridium cellulovorans* to guide metabolic engineering. Minneapolis, MN, AIChE, Oct 29 - Nov 3, 2017.
23. Ma, C., Ou, J. and **Liu, X.M.** Biobutanol production by *C. tyrobutyricum* through proteomics guided carbon and redox rebalance. San Francisco, CA, AIChE, Nov 13-18, 2016. Oral.
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30. Xu, N., Yang, Y., and **Liu, X.M.** Comparative proteomic analysis of host and high biopharmaceuticals producing CHO cell lines. Salt Lake City, AIChE, Nov 8-13, 2015. Oral.
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32. Ou, J., Ma, C., and **Liu, X.M.** Omics guided rationally metabolic engineering of *Clostridium tyrobutyricum*. Salt Lake City, AIChE, 2015. Oral.
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