Curriculum Vitae
Wei Xu, Ph.D.

Contact Information:

Marian A. Messenschmidt Professor
Department of Oncology
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Education:

1987-1991 Beijing University	B.S., Chemistry
1991-1994 Institute of Biophysics	M.S., Biophysics, Academic Sinica, China
1994-1999 University of Iowa	Ph.D. program, Biochemistry
1999- 2005 The Salk Institute	Postdoctoral research associate

Positions Held:

2005-2011 Assistant Professor (with tenure), Department of Oncology, University of Wisconsin-Madison
2011-2014 Associate Professor (tenured), Department of Oncology, University of Wisconsin-Madison
2014- Professor (tenured), Department of Oncology, University of Wisconsin-Madison
2019- Associate Director, McArdle Laboratory for Cancer Research

Award and Honors:

- My paper "A transcriptional switch mediated by co-factor methylation" published in *Science* is recommended by David Allis to *Faculty of 1000*, 2002
- David and Lucille Packard scholarship from the Keystone Symposia, 2002
- FASEB MARC program travel award, 2003
- Endocrine Society Travel award, 2003
- Nuclear Receptor Keystone meeting: Orphan Brothers Travel Award, 2004
- Susan G. Komen Breast Cancer Foundation; BCTR0600953 (2006-2009)
- NIH R01 CA125387 4/1/2008-3/30/2013
- Elsa U. Pardee Foundation 12/31/06-12/30/07
- Susan Komen Breast Cancer Foundation Spotlight, 2008
- Shaw Scientist Award, 2008
- Markos Family Breast Cancer Research Grant from Wisconsin Women's Health Foundation, 2010
- DOD ERA of HOPE Scholar, 2010

- Rush Basic Research Award from UW Comprehensive Cancer Center Retreat, 2011
- Villas Associate of University of Wisconsin, 2012
- Society of Toxicology Achievement Award, 2013
- Villas Distinguished Achievement Professor, University of Wisconsin, 2014
- Member of the Scientific Advisory Committee on Alternative Toxicological Methods (SACATM) of NIEHS, 2014
- Romnes Faculty Fellowship, University of Wisconsin, 2016
- Marian A. Messerschmidt Professorship, 2016-present
- American Association for Chinese Toxicologist (AACT) Distinguished Chinese Toxicologist Lectureship award, 2017
- Midwest Regional Chapter of the Society of Toxicology Kenneth P. DuBois Award, 2017
- AACR-Bayer Innovation and Discovery Grant Awardee, 2019
- Kellett Mid-Career Award, University of Wisconsin-Madison, 2019
- The Ride Program Scholar, 2021
- AAAS fellow, 2022

Professional Society Memberships:

American Association for Cancer Research (AACR), Endocrinology Society, Society of Toxicology, Chinese Biological Investigators Society (CBIS), Mid-West Society of Toxicology

Professional Service (national):

- Member, Post-doctoral Fellowship Review Committee, Susan Komen Breast Cancer Foundation, Nov. 2005
- Member, Idea and Synergistic Award Review Committee, Department of Defense, August 2006
- Member, Investigator Initiated Grant Review Committee, Department of Defense, January 2008
- Member, Pre- and Post-doctoral Fellowship Review Committee, Department of Defense, May 2009, May 2010, Feb. 2013
- Florida Department of Health Review Committee, March 2008, 2009, 2010, 2013
- Cancer Care Manitoba, Canada, external reviewer, 2008
- Breast Cancer Campaign/UK Grant Review Committee, September 2008
- Reviewer for Lilly Endocrine Scholars Award, Endocrinology Society, 2009, 2010
- Reviewer for National Natural Science Foundation of China, 2010
- Reviewer for Italian Ministry of Health, 2010, 2013
- Reviewer for MRC, UK, 2011, 2012, 2013, 2016
- Reviewer for NIH, CBSS, 2011, regular member July, 2012 -- June, 2018; co-Chair Feb. 2018
- Reviewer for Special Emphasis Panel/Scientific Review Group 2012/05 ZRG1 OBT-A (55) R
- Member of the Scientific Advisory Committee on Alternative Toxicological Methods (SACATM) of NIEHS, 2013-2017

- Member, NIEHS Transition to Independent Environmental Health Research (TIEHR) Career Development Award (K22) study session, March, 2014
- Reviewer for National Science Center, Poland, April, 2014
- Member, Programmatic Review for Breakthrough Awards, Department of Defense, May 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
- Member, NIEHS ZES1 LWJ-D (U4) special emphasis panel for SBIR grant, April 2016
- Reviewer for NIH, MONC, June 2016, October 2016
- Reviewer for Ohio State University Cancer Center, 2017
- Member, NCI ZCA1 SRB-2 (M1) Special Emphasis Panel, March, 2018
- Ad Hoc Reviewer for NIH, CAMP, October 2018
- Ad Hoc Reviewer for NIH, CG, February 2019
- Member, NCI ZCA RPRB-L (M1) Special Emphasis Panel, February 2019
- President-elect, Society of Toxicology Mid-West Regional Chapter, 2017-2018
- President, Society of Toxicology Mid-West Regional Chapter, 2018-2019
- Editorial Board Member, *PPAR research*, 2006-
- Editorial Board Member, *Current BioData Epigenetic Regulators*, 2006-present
- Editorial Board Member, *Chemical Research in Toxicology*, 2009-present
- Editorial Board Member, *American Journal of Cancer Research*, 2011-present
- Editorial Board Member, *PLOS One*, 2013-
- Editorial Board Member, *Journal of Biological Chemistry*, 2017- Dec. 2027
- Regular Member of NCI CAMP study section, July 2019-June 2023
- Associate Editor, Genes & Diseases, 2023-
- Member, AACR Clinical and Translational Cancer Research Grants Scientific Review Committee, 2020, 2021, 2022
- Member, Peer Reviewed Cancer Research Program (PRCRP), Department of Defense, 2020
- Member, NCI ZCA1 RTRB-U (M1) Cancer Prevention-Interception Targeted Agent Discovery Program (CAP-IT) Centers, March 2-3, 2022
- Meeting organizer of FASEB Catalyst Conference on "Protein Arginine Methylation in Physiology and Disease", virtually, Feb. 15th, 2023
- Ad hoc reviewer for Journals: PPAR research, Medicinal Research Reviews, Biochemical Journal, Trends in Endocrinology and Metabolism, Biomedical Reports, JBC, Cellular Molecular Endocrinology, Bioorganic and Medical Chemistry, Chemical Research in Toxicology, Advanced Drug Delivery Review, Biochemical Pharmacology, Recent Patents on Endocrine, Metabolic & Immune Drug Discovery, PLOS One, Molecular Cellular Biology, Oncogene, Cancer Letters, Journal for Cellular and Molecular Medicine, Oncotargets, Clinical Cancer Research, Cell Report, Nucleic Acid Research, Science Signaling, eLife science, BMC Cancer, Endocrinology, Cancer Cell, Cell Research.

Professional Service (University):

- New Assistant Professor Search Committee, McArdle Laboratory, 2005
- Cellular Molecular Biology Admission Committee, 2006-2009
- McArdle Seminar committee, member, 2010-2011
- McArdle Seminar committee, chair, 2012-

- Molecular Environmental Toxicology Center Training Grant Committee, 2010-
- University Committee on Honorary Degree, 2011-2014
- New Assistant Professor Search Committee, McArdle Laboratory, 2011
- Reviewer for the MIR/WID & UWCCC Pilot Grant Program, 2012
- Reviewer for UWCCC ICTR grant program, 2012
- Advisory committee for Small Molecule Screening and Synthesis Facility, 2012-
- School of Medicine and Public Health Faculty Advisory Committee, 2013-2016.
- Co-PI of NIEHS T32 ES007015, 2013-
- UWCCC director search committee, 2014-2015
- Graduate School's Biological Sciences Fellowship Committee, 2015-2017
- Faculty senator on behalf of Department of Oncology, 2015-
- Reviewer for PERC at UW School of Medicine and Public Health, 2016
- UW Department of Surgery Chair Search Committee, 2016
- Reviewer for UW20/20 at UW School of Medicine and Public Health, 2017
- Sophomore Research Fellowship Committee, 2017-2018
- UW Biotech. Center Review Committee, 2017
- Fellowship Reviews for SciMed GRS, 2018-2020
- DNA virus cluster hire tenure-track faculty search committee, 2019
- SMPH Graduate Educational Policy Council, 2019-2022
- School of Pharmacy Cancer Therapeutics and Precision Medicine – Cluster hire search committee, 2019
- Co-PI of NCI Surgical Oncology Research Training Program T32CA090217, 2020-
- Basic Science Strategic Leadership Committee, School of Medicine and Public Health, UW, Nov. 2021-
- UWCCC director search committee, 2023
- Co-PI of Breast SPORE (submitted), Jan. 2024

Publications:

1. Zhang S., Kim, E., Huang J., Liu P., Donahue, K., Wang, Q., Wang, Y., Mcilwain S., Xie, L., Chen X., Li L., **Xu, W**. NEAT1 repression by MED12 creates chemosensitivity in p53 wild-type breast cancer cells. *FEBS Letter*, in press.
2. Dong X., Qi, M., Cai, C., Zhu Y., Li, Y., Coulter, S., Sun, F., Liddle C., Uboha, N., Halberg, R., **Xu, W**., marker, P., Fu, T. (2024) Farnesoid X receptor mediates macrophage-intrinsic responses to suppress colitis-induced colon cancer progression, *JCI insight*, 9(2):e170428 PMID: 38258906
3. Ma, M, Yu, Q., Delafield, D., Cui, Y., Li, Z., Li, M., Wu, W., Shi, X., Westmark, P., Gutierrez, A., Ma, G., Gao, A., Xu, M., **Xu, W.**, Westmark, C., Li, L. (2023) On-tissue spatial proteomics integrating MALDI-MS imaging with shotgun proteomics reveals soy consumption induced protein changes in a fragile X syndrome mouse model, *ACS Chemical Neuroscience*, DOI: 10.1021/acschemneuro.3c00497 PMID: 38109073
4. Xie, H., Bacabac, M., Ma, M., Kim, E.J., Wang, Y., Li, W., Li, L., **Xu, W.***, Tang, W.P.* (2023) Development of Potent and Selective Coactivator-associated Arginine Methyltransferase 1 (CARM1) Degraders. *J. Medical Chemistry*, 66:13028-13042. * co-corresponding authors. PMID: 37703322

5. Ma M., Liu, F., Miles H. N., Kim E. J., Fields L., **Xu, W.*** and Li, L.* (2023) Proteome-wide profiling of asymmetric demethylated arginine in human breast tumors. *J. Am. Soc. Mass Spectrom*, 34: 1692-1700. * co-corresponding authors. PMID: 37463068.

6. Donahue K., Xie, H., Li, M., Gao, A., Ma, M., Wang, Y., Tipton, R., Semanik, N., Primeau, T., Li, S., Li, L., Tang, W., **Xu, W.** (2022) Diptoindonesin G is a middle domain HSP90 modulator for cancer treatment, *Journal of Biological Chemistry*, Nov 14; 102700. This article is selected as 'Editors' pick' and will be featured in JBC. PMID: 36395883

7. Chan N. T., Lee, M, S., Wang, Y., Galipeau J., Li, W.J., **Xu, W.** (2022) CTR9 drives osteochondral lineage differentiation of human mesenchymal stem/stromal cells (MSCs) via epigenetic regulation of BMP-2 signaling, *Science Advances*, Nov 18; 8(46):eadc9222. PMID: 36383652

1. Chan N. T., Huang, J., Ma, G., Zeng, H., Donahue, K., Wang, Y., Li, L. and **Xu, W.** (2022) The transcriptional elongation factor CTR9 demarcates PRC2-mediated H3K27me3 domains by altering PRC2 subtype equilibrium, *Nucleic Acid Research*, 50: 1969-1992

2. Mao F., Kong, Y., Liu J., Rao X., Li, C., Donahue, K., Zhang, Y., Jones, K., Zhang, Q., **Xu, W.**, Liu, X. (2022) Diptoindonesin G antagonizes AR signaling and enhances the efficacy of anti-androgen therapy in prostate cancer, *The Prostate*, 2022: 1-16

3. Kim E.J., Liu, P., Zhang, S., Wang, Y., Schehr, J., Wolfe, S., Dickerson, A., Donahue, K., Lu, L., Rui, L.X., Zhong, X., Wisinski, K., Yu, M., Suzuki, A., Lang, J.M., Ong, I., **Xu, W.** (2021) BAF155 methylation drives triple-negative breast cancer metastasis by hijacking super-enhancers and subverting anti-tumor immunity, *Nucleic Acid Research*, 49 (21): 12211-12233. PMID: 34865122

4. You, X., Liu, F., Binder, M., Vedder, A., Lasho, T., Wen, Z., Gao, X., Flietner, E., Rajagopalan, A., Zhou, Y., Finke, C., Mangaonkar, A., Liao, R., Kong, G., Ranheim, E. A., Droin, N., Hunter, A. M., Nikolaev, S., Balasis, M., Abdel-Wahab, O., Levine, R. L., Will, B., Nadiminti, K. V. G., Yang, D., Geissler, K., Solary, E., **Xu, W.**, Padron, E., Patnaik, M. M., Zhang, J. (2021) Asxl1 loss cooperates with oncogenic Nras in mice to reprogram immune microenvironment and drive leukemic transformation *Blood*, Oct 26. 2021012519. PMID: 34699595

5. Liu F., Ma, M., Ma, F., Liu, P., Jia, C., Wang, Y., Zhang, S., Ong, I., Keles, S., Li, L., **Xu, W.** (2021) PKM2-TMEM33 axis controls SCAP stability and lipid homeostasis in cancer. *EMBO J*. Sept. 6; e108065. PMID: 34487377

6. Zhang S., Liu F., Halfmann P., Behrens R. T., Liu, P., Ong I., Donahue K., Wang, Y., Kawaoka, Y., Sherer, N., **Xu, W**. (2021) Mediator complex subunit 12 is a gatekeeper of SARS-CoV-2 infection in triple-negative breast cancer cells. *Genes & Disease*, Aug. 17. PMID: 34423104

7. Huang T., Yang, Y., Song, X., Wan, X., Wu, B., Sastry, N., Horbinski C., Zeng, C., Tiek, D., Geonka A., Liu, F., Brennan C.W., Kessler, J. A., Stupp, R., Nakano, I., Sulman, E. P., Nishikawa, R., James, C. D., Zhang, W., **Xu, W.**, Hu, B., Cheng, S. (2021) PRMT6 methylation of RCC1 regulates mitosis, tumorigenicity, and radiation response of glioblastoma stem cells. *Mol. Cell*, 81(6): 1276-1291. PMID: 33539787

8. Roberts B., Ma, Z., Gao, A., Leisten, E. D., Yin, D., **Xu, W**., Tang, W. (2020) Two-stage strategy for development of proteolysis targeting chimeras and its application for estrogen receptor degraders, *ACS Chem. Biol.*, 15(6): 1487-1496. PMID: 32255606

9. Stossi F., Dubrulle J., Dandekar R.D., Mancini M.G., Gu G, Fuqua S.A., Schiff R., Bedford M.T., **Xu W.**, Johansson H.E., Stephan C.C., Mancini M.A., (2020) Estrogen-induced transcription at individual

alleles is independent of receptor level and active conformation but can be modulated by coactivators activity. *Nucleic Acid Research, 48(4): 1800-1810*. PMID: 31930333

10. Zhang, S., O'Regan, R., **Xu, W.** (2020) The Emerging role of mediator complex subunit 12 in tumorigenesis and response to chemotherapeutics. *Cancer*, 126: 939-948. PMID: 31869450
11. Gao Y., Nihira N. T., Bu X., Chu C., Zhang, J., Kolodziejczyk, A., Fan Y., Chang N., Ma L., Liu J., Wang, D., Dai X., Liu, H., Ono, M., Nakanishi A., Inuzuka H., North B. J., Huang, Y., Sharma S., Geng, Y., **Xu, W**., Liu X. S., Li, L., Miki Y., Sicinski, P., Freeman G. J., Wei W. (2020) Acetylation-dependent regulation of PD-L1 nuclear translocation dictates the efficacy of anti-PD-1 immunotherapy. Nat. Cell Biol., 22(9): 1064-1075. PMID: 32839551
12. Cai X., Zhang T., Kim E., Jiang M., Ke W., Wang J., Shi C., Zhang N., Wu H., Li F., dela Seña C., Zheng H., Vivcharuk V., Niu X., Zheng W., Lee J. P., Chen Y., Barsyte D., Szewczyk M., Hajian T., Ibáñez G., Dong A., Dombrovski L., Zhang Z., Deng H., Min J., Arrowsmith C. H., Mazutis L., Leslie C., Shi L., Vedadi M., Brown P. J., Xiang J., Qin L., **Xu W** and Luo, M. (2019) A Chemical Probe of CARM1 Alters Epigenetic Plasticity Against Breast Cancer Cell Invasion, elife doi: 10.7554/eLife.47110. PMID: 31657716
13. Zhu F, Guo H, Bates PD, Zhang S., Zhang H, Nomie KJ, Li Y, Lu L, Seibold KR, Wang F, Rumball I, Cameron H., Hoang NM, Yang DT, **Xu W**, Zhang L, Wang M., Capitini CM, Rui, LX. (2019) PRMT5 is upregulated by B cell receptor signaling and forms a positive feedback loop with PI3K/AKT in lymphoma cells. *Leukemia*, doi: 10.1038/s41375-01900489-6. PMID: 31123343
14. Ma, F., Liu, F., **Xu, W.***, Li, L.* (2018) Surfactant and chaotropic agent assisted sequential extraction/on-pellet digestion (SCAD) for enhanced proteomics. *Journal of Proteome Research*, 17(8): 2744-2754. * co-corresponding authors. PMID: 29923408.
15. You, J., Dooley, M.S., Kim, C., Kim, E., **Xu, W.**, Goodman, C.A., Hornberger, T. A. (2018) A DGKζ-FoxO-ubiquitin proteolytic axis controls fiber size during skeletal muscle remodelling. *Science Signaling*, 11(530). pli: eaao6847. PMID: 29764991.
16. Chen, Z., Yu, Q., Hao, L., Liu, F.B., Johnson, J., Tian, Z., Kao, J., **Xu, W.*** and Li, L. *(2018) Site-Specific characterization and quantitation of N-glycopeptides in PKM2 knockout breast cancer cells using DiLeu isobaric tags enabled by electron-transfer/high-energy collision dissociation (EThcD), *Analyst*, 143(11):2508-2519. PMID: 29687791. * co-corresponding authors. PMID: 29687791.
17. Coriano, C., Liu, F., Sievers, C., Liang, M., Wang, Y., Lim, Y., Yu, M., and **Xu, W.** (2018) A computational based approach to identify estrogen receptor alpha/beta heterodimer selective ligands, *Mol. Pharmacology*, 93: 197-207. PMID: 29295894.
18. Wang Q, Jiang J, Ying G, Xie XQ, Zhang X, **Xu W**, Zhang X, Song E, Bu H, Ping YF, Yao XH, Wang B, Xu S, Yan ZX, Tai Y, Hu B, Qi X, Wang YX, He ZC, Wang Y, Wang JM, Cui YH, Chen F, Meng K, Wang Z, Bian XW. (2018) Tamoxifen enhances stemness and promotes metastasis of ERα36(+) breast cancer by upregulating ALDH1A1 in cancer cells. *Cell Res.* 28(3):336-358.
19. Liu F.B., Ma F., Wang Y., Hao L., Zeng, H., Jia, C., Liu, P., Ong, I., Li, B., Chen G., Jiang, J., Wang, Y., Gong, S., Li, L., and **Xu, W**. (2017) PKM2 methylation by CARM1 activates aerobic glycolysis to promote tumorigenesis, *Nature Cell Biology*, 19: 1358-1370.
    a. This article was highlighted in UW School of Medicine and Public Health Newsletter:
    b. https://news.wisc.edu/new-study-shows-how-cells-can-be-led-down-non-cancer-path/
20. Wang, Y., Wang, Y., Chen, G., Li, Y., **Xu, W**.* and Gong, S. (2017) Quantum dot-based theranostic micelles conjugated with an anti-EGFR nanobody for triple-negative breast cancer therapy, *ACS Applied Materials & Interfaces*, 9: 30297-30305. * co-corresponding author. PMID 28845963

21. Shishkova E., Zeng, H., Liu, F.B., Coon, J., **Xu, W.** (2017) Global mapping of CARM1 substrates defines enzyme specificity and substrate recognition, *Nature Comm.,* 8: 15571. PMID: 28537268
    a. This article was highlighted in UW School of Medicine and Public Health Newsletter:
    b. http://www.med.wisc.edu/news-events/study-sheds-light-on-function-of-protein-associated-with-high-risk-breast-cancers/50956
22. Zeng, H., Lu, Li, Chan, N.T., Hoswill, M., Ahlquist, P., Zhong, X. and **Xu, W**. (2016) Systematic identification of Ctr9 regulome in ERα-positive breast cancer, *BMC Genomics*, 17: 902.
23. Liu, J-T., Do, T. J., Simmons, C. J., Lynch, J. C., Gu, W., Ma Z-X, **Xu, W.**, Tang, W. (2016) Total synthesis of diptoindonesin G and its analogues as selective modulators of estrogen receptors. *Organic & Biomolecular Chemistry*, 14(38):8927-8930.
24. Brinkman, A., Chen, G., Wang, Y., Hedman, C.J., Sherer, N., Havighurst, T.C. and **Xu, W.** (2016) Aminoflavone-loaded EGFR-targeted unimolecular micelle nanoparticles exhibit anti-cancer effects in triple-negative breast cancer, *Biomaterials*, 101: 20-31.
25. Wisinski, K., **Xu, W.**, Tevaarwerk, A., Saha, S., Kim, K., Traynor, A., Dietrich, L., Hegeman, R., Patel, D., Blank, J., Harter, J., Burkard, M. (2016) Targeting ERβ in a Phase II study of high dose estradiol in metastatic triple negative breast cancer: a Wisconsin Oncology Network Study, *Clinical Breast Cancer*, pii: S1526-8209 (16)30080-5.
26. Zeng, H. and **Xu, W.** (2016) Gene expression profiling of Ctr9-regulated transcriptome in ERα-positive breast cancer. *Genomics data*, 7: 103-104.
27. Zhao, Z., Wang, L., James, T., Jung, Y., Kim, I., Tan, R., Hoffmann, M. and **Xu, W.** (2015) Reciprocal regulation of ERα and ERβ stability and activity by Diptoindonesin G. *Chemistry & Biology*, 22: 1-14.
    a. This article was highlighted in UW School of Medicine and Public Health Newsletter:
    b. http://www.med.wisc.edu/news-events/plant-natural-product-helps-limit-growth-of-breast-cancer/47249
    c. https://sciencetrends.com/scientists-discover-natural-plant-product-combats-endocrine-resistance-breast-cancer/
28. Zeng, H. and **Xu, W.** (2015) Ctr9, a key subunit of PAFc, affects global estrogen signalling and drives ERα -positive breast tumorigenesis. *Genes & Development*, 29: 2153-67.
    a. This study was broadcasted on the Wisconsin Public Radio. http://www.wpr.org/uw-research-looks-make-breast-cancer-treatment-more-effective
    b. This article was also highlighted in UW School of Medicine and Public Health Newsletter: http://www.med.wisc.edu/news-events/uw-carbone-researchers-discover-how-breast-cancer-resists-treatment/46932
29. Wang, L., Zeng, H., Wang, Q., Zhao, Z., Boyer T. G., Bian, X., and **Xu, W.** (2015) MED12 methylation by CARM1 sensitizes human breast cancer cells to chemotherapy drugs. *Science Advances*, 1: e1500463.
    a. This article was highlighted in UW School of Medicine and Public Health Newsletter:
    b. http://www.med.wisc.edu/news-events/biomarkers-for-chemo-resistance-could-lead-to-better-breast-cancer-treatments/46731
30. Xu, D., Zhan Y., Cao, B., Bai, S., **Xu, W.**, Gambhir SS, Lee P., Sartor O., Flemington EK, Zhang H., Hu CD, Dong, Y. (2015) Androgen receptor splice variants dimerize to transactivate target genes. *Cancer Research*, 75: 3663-71.

31. Shanle E., Onitilo A.A., Huang, W., Kim, K. M., Zang, C., Engel, J., **Xu, W**., and Wisinski, K. B. (2015) Prognostic significance of full-length estrogen receptor beta expression in Stage I-III triple negative breast cancer. *Am J Transl Res*, 7: 1246-59.

32. Shlensky, D., Mirrielees, J. A., Zhao, Z., Wang, L., Mahajan, A., Yu, M., Sherer, N. M., Wilke, L. G., and **Xu, W.** Differential CARM1 Isoform Expression in Subcellular Compartments and Among Malignant and Benign Breast Tumors. *PLoS One*, *10(6):* e0128143, 2015.

33. Charoensuksai, P., Kuhn, P., Wang, L., Sherer, N., **Xu, W.** (2015) O-GlcNAcylation of co-activator-associated protein arginine methyltransferase 1 regulates its substrate specificity. *Biochem J.* 466(3): 587-99.

34. Zhao, Z., Wang, L., **Xu, W.** (2015) IL-13Rα2 mediates PNR-induced migration and metastasis in ERα-negative breast cancer. *Oncogene*, 34(12): 1596-1607.

35. Brinkman, A.M., Wu, J., Ersland K., **Xu, W.** (2014) Estrogen receptor a and aryl hydrocarbon receptor independent growth inhibitory effects of aminoflavone in breast cancer cells. *BMC Cancer*, 14(1): 344.

36. Gao, J., Sabat, G., Valdivia, H., **Xu, W.**, Shi, N. (2014) Disrupting KATP channels diminishes the estrogen-mediated protection in female hearts against ischemia. *Clinical Proteomics*, 11(1): 19.

37. Wang, L., Zhao, Z., Meyer, M. B., Saha, S., Yu, M., Guo, A., Wisinski, K. B., Huang, W., Cai, W., Pike, J. W., Yuan, M., Ahlquist, P., **Xu, W.** (2014) CARM1 methylates chromatin remodeling factor BAF155 to enhance tumor progression and metastasis. *Cancer Cell*, 25: 1-16.

38. Zhao, Z., Wang, L., Wen, Z., Ayaz-guner S., Wang, Y., Ahlquist, P., **Xu, W**. (2013) Systematic analysis of the cytotoxic effects of compound 11a, a putative synthetic agonist of photoreceptor-specific nuclear receptor (PNR), in cancer cell lines. *PLOS ONE*, 8(9): e75198.

39. Shanle, E., Zhao, Z., Hawse, J., Wisinski, K., Keles, S., Yuan, M., **Xu, W.** (2013) Global identification of estrogen receptor beta target genes in triple negative breast cancer cells. *Molecular Endocrinology*, 27(10): 1762-1775.

40. Wang L., Charoensuksai P., Watson N., Wang X., Zhao Z., Coriano C. G., Kerr L., **Xu W.**, (2013) CARM1 automethylation is controlled at the level of alternative splicing, *Nucleic Acid Research*, 41(14): 6870-6880.

41. Zeng. H., Wu, J., Bedford M. T., Sbardella G., Hoffmann, F. M., Bi K., **Xu, W.**, (2013) TR-FRET based functional assay for screening activators of a protein methyltransferase, *ChemBioChem*, 14(7): 827-35 * selected as cover for April issue 7 of *ChemBioChem*.

42. Sievers, C.K., Shanle, E., Bradfield, C. and **Xu, W.** (2013) Differential action of monohydroxylated polycyclic aromatic hydrocarbons with estrogen receptors alpha and beta, *Toxicological Science*, *132(2):* 359-367.

43. James G. Yarger, Robert E. Babine, Michael Bittner, Erin Shanle, **Xu, W.**, Hershberger P., Nye. S.H. (2013) Structurally similar estrogen analogs uniquely alter the regulation of intracellular signalling pathways. *J. Molecular Endocrinology*, *50(1):* 43-57.

44. Wu, J. and **Xu, W.** (2012) Histone H3R17me2a mark recruits human PAF complex to activate transcription. *Proc. Natl. Acad. Sci. USA*, 109: 5675-80.

45. Powell, E., Shanle, E., Brinkman, A., Li J., Keles, S., Wisinski K.B., Huang, W., **Xu, W.** (2012) Identification of estrogen receptor α/β heterodimer selective ligands reveals growth-inhibitory effects on cells co-expressing ERα and ERβ. *Plos One*, 7(2):e30993.

46. Wen, Z., Pyeon, D., Wang, Y., Lambert, P., **Xu, W**.*, and Ahlquist, P*. (2012) Orphan nuclear receptor PNR/NR2E3 stimulates p53 functions by enhancing p53 acetylation. *Mol. Cell. Biol.*, 32: 26-35. * co-corresponding author.

47. Shanle E., Hawse J., **Xu, W.** (2011) Generation of stable reporter breast cancer cell lines for the identification of ER subtype selective ligands. *Biochemical Pharmacology*, 82:1940-1949.
48. Al-Dhaheri, M., Wu, J., Skliris, G. P., Li, J., Higashimato, K., Wang, Y., White, K. P., Lambert, P., Zhu, Y., Murphy, L., and **Xu, W.** (2011) CARM1 Is an Important Determinant of ERα-Dependent Breast Cancer Cell Differentiation and Proliferation in Breast Cancer Cells. *Cancer Res.*, 71: 2118-2128.
49. Chumanov R., Kuhn, P., **Xu, W.**, Burgess, R. (2011) Expression and purification of full-length CARM1 from transiently transfected HEK293T cells using Halo-Tag. *Protein Expression and Purification*, 76 (2): 145-153.
50. Kuhn, P., Chumanov, R., Wang, Y., Burgess R. R., **Xu, W**. (2011) Automethylation of CARM1 allows coupling of transcription and mRNA splicing. *Nucleic Acid Research*, 39(7): 2717-26.
51. Yang, Y., Espejo A., Wu, J., **Xu, W**., Lu, Y., Liang, S., and Bedford M. (2010) TDRD3 is an effector molecule for arginine methylated histone Marks. *Molecular Cell*, 40: 1016-1023.
52. Huang, S. X., Powell, E., Rajski, S.R., Zhao, L., Jiang, C., Duan, Y., **Xu, W.**, Shen, B. (2010) Discovery and total synthesis of a novel estrogen receptor heterodimerizing actinopolymorphol A from Actinopolymorpha rutilus. *Organic Letters*, 12: *3525-3527*.
53. Charoensuksai, P. and **Xu, W**. (2010) PPARs and the biological clock: reciprocal regulation and role in energy homeostatis. *PPAR research*, Vol. 2010, Article ID 243643.
54. Shanle, E., **Xu, W**. (2010) Selectively targeting estrogen receptors for cancer treatment. *Advanced Drug Delivery Reviews*, 62(13):1265-76.
55. Shanle, E., **Xu, W**. (2011) Endocrine disrupting chemicals targeting estrogen receptor signalling: Identification and mechanisms of action. *Chemical Toxicology Research*, 24: 6-19. * selected as cover for January 2011 issue of *Chemical Research of Toxicology*
56. Powell, E., Huang, S. X., Xu, Y., Rajski, S. R., Wang, Y., Peters, N., Guo, S., Xu, E., Hoffmann, M., Shen, B., and **Xu, W.** (2010) Identification and Characterization of a Novel Estrogenic Ligand Actinopolymorphol A. *Biochemical Pharmacology*, 80:1221-1229.
57. Powell E., Wang Y., Shapiro D.J., **Xu, W**. (2010) Differential requirements of Hsp90 and DNA for the formation of estrogen receptor homodimers and heterodimers. *J. Biological Chemistry*, 285: 16125-16134. **F1000 Cell Biology recommended article by Len Neckers and Mehdi Mollapour, NCI**
58. Kuhn, P., Xu, Q., Cline, E., Zhang, D., Ge, Y. and **Xu, W**. (2009) Delineating Anapheles Gambiae Coactivator Associated Arginine Methyltransferase 1 (AgCARM1) Automethylation Using Top-Down High Resolution Tandem Mass Spectrometry. *Protein Science*, 18: 1272-1280.
59. Nofsinger, R. R., Li, P., Hong, S.-H., Jonker, J. W., Barish, G. D., Ying, H., Cheng, S.-y., LeBlanc, M., **Xu, W.**, Pei, L., Kang, Y.-J., Nelson, M., Downes, M., Yu, R. T., Olefsky, J. M., Lee, C.-H., and Evans, R. M. (2008) SMRT Repression of Nuclear Receptors Controls the Adipogenic Set Point and Metabolic Homeostasis. *Proc. Natl. Acad. Sci. USA*, *105:* 20021-20026.
60. Powell E., **Xu, W.** (2008) Intermolecular interactions identify ligand-selective activity of estrogen receptor α/β dimers. *Proc. Natl. Acad. Sci., USA*, *105:* 19012-19017.
61. Zhu, Y., Zhu, Y., **Xu, W.** (2008) EzArray: a web-based highly automated Affymetrix expression array data management and analysis system *BMC Bioinformatics*, 9:46.
62. Higashimoto, K., Kuhn, P., Desai, D., Cheng, X., and **Xu, W.** (2007) Phosphorylation-mediated Inactivation of Coactivator-associated Arginine Methyltransferase 1. *Proc. Natl. Acad. Sci., USA*, *104:* 12318-12323.
63. Powell, E., Kuhn, P. and **Xu, W.** (2007) Nuclear Receptor Cofactors in PPARγ-Mediated Adipogenesis and Adipocyte Energy Metabolism *PPAR research, Article* 53843

64. Yao, T, Song, L, **Xu, W.**, DeMartino G. N., Florens, L., Swanson, S.K., Washburn, M.P., Conaway, R.C., Conaway, J.W., and Robert E. Cohen (2006) Proteasome recruitment and activation of the Uch37 deubiquitinating enzyme by Adrm1. *Nature Cell Biology*, 8 (9): 994-1002.
65. **Xu, W.** (2005) Nuclear receptor coactivators: the keys to unlock chromatin. *Biochemistry and Cell Biology* 83: 1-11.
66. **Xu, W.**, Cho, H., Kadam, S., Banayo, E., Anderson, S., Yates III, J. R., Emerson, B. M. and Evans, R. M. (2004) A Methylation-mediator complex unifies two nuclear hormone signalling pathways. *Genes & Development* 18: 144-156.
67. Louie, M. C., Yang, H. Q., Ma, A. H., **Xu, W.**, Zou, J. X., Kung, H. J. and Chen, H. W. (2003) Androgen-induced recruitment of RNA polymerase II to a nuclear receptor- p160 coactivator complex. *Proc. Natl. Acad. Sci.,*, 100 (5): 2226-2230.
68. **Xu, W.**, Cho, H. and Evans, R. M. (2003) Acetylation and methylation in nuclear receptor gene activation. *Methods in Enzymology*, 364: 205-223.
69. Demarest, S. J., Martinez-Yamout, M., Chung, J., Chen, H., **Xu, W.**, Dyson, H. J., Evans, R. M. and Wright, P. E. (2002) Mutual synergistic folding in recruitment of CBP/p300 by p160 nuclear receptor coactivators. *Nature*, 415: 549-553.
70. **Xu, W**., Chen, H., Du, K., Asahara, H., Tini, M., Emerson, B. M., Montminy, M. and Evans, R. M. (2001) A transcriptional switch mediated by cofactor methylation. *Science*, 294: 2507-2511.
71. Lam, Y.A., **Xu, W.**, DeMartino, G., and Cohen, R. E. (1997) Editing of ubiquitin conjugates by an isopeptidase in the 26S proteasome, *Nature* 385: 737-740
72. **Xu, W.**, Shen, X., Tang, L. X., Zhang, J. (1994) Study on the reaction of ferryl radical with linoleic acid, *Acta Biophysica Sinica* 10 (3), 507-512.
73. **Xu, W.**, Shen, X., Tang, L. X., and Li, X. Y. (1994) Direct observation of the ferryl radical, *Acta Biophysica Sinica* 10 (2), 312-316.

Book Chapters:

1. Kuhn, P., **Xu, W.** Nuclear receptor coregulators and beyond. (2009) *Progress in Molecular Biology and Translational Science*, Volume 87, pp 297-340. Elsevier Publishers, 2009.
2. Powell, E., Xie, W., **Xu, W.** (2010) Molecular Players and Cellular Pathways in Estrogen-Modulated Breast Cancer, *Female sex hormones and cancers*, Chapter 2, pp. 25-62. New York: Nova Science Publishers, Inc., 2010.
3. Shanle E. and **Xu, W.** (2010) Selectively targeting estrogen receptors for cancer treatment, Adv Drug Deliv Rev. 62: 1265-76. PMID: 20708050
4. Shanle E. and **Xu, W**. (2011) Endocrine disrupting chemicals targeting estrogen receptor signaling: identification and mechanisms of action. Chem. Res. Toxicology, 24(1): 6-19. PMID: 21053929
5. Zeng, H. and **Xu, W.** (2015) Enzymatic Assays of Histone Methyltransferase Enzymes, *Epigenetic Technological Applications*, Chapter 16: pp 334-356. Elsevier Publishers, 2015.
6. Coriano, C., Powell, E., **Xu, W.** (2016) Monitoring Ligand-Activated Protein-Protein Interactions Using Bioluminescent Resonance Energy Transfer (BRET) Assay, *High-Throughput Screening Assays in Toxicology*, Chapter 1: pp. 3-15. Humana Press, Springer Protocols, 2016.
7. Donahue K., **Xu, W.** Therapeutic Strategies to Target Activating Estrogen Receptor α Mutations (2021) Invited Book Chapter in "Nuclear Receptors: The Art and Science of Ligand Design and Discovery" Springer Publisher

8. Ngai C. T., **Xu, W.** ChIP-seq: the Evolution of Genome-wide Approaches to Unveil the Transcriptional Network (2022) Invited Book Chapter in "Chromatin accessibility, a window to transcriptional regulation, Comprehensive Precision Medicine", Elsevier Publisher
9. Bacabac M., **Xu, W.** Oncogenic Super-Enhancers in Cancer: Mechanisms and Therapeutic Targets (2023) Cancer and Metastasis Reviews, 42: 471-480, Springer Publisher

Oral Presentations/Conference Organizing:

1. **Beijing University and Institute of Biophysics, Chinese Academy of Science**, China, July, 2002 Title: "Chromatin, physiology and nuclear hormone receptors".

2. **Hot Topics in Endocrinology**, San Diego, CA, October, 2003 Title: "A methylation-Mediator Cascade in Hormone Signaling".

3. **New York University**, Department of Biochemistry, September, 2004 Title: "Regulation of nuclear hormone receptor signaling by chromatin modifiers".

4. **Transcriptional regulation by chromatin and RNA polymerase II in Granlibakken**, Lake Tahoe Oct. 29-Nov. 1, 2004 Title: "Identification of CARM1-associated histone methyltransferase complex".

5. **Cancer Genetics Retreat**, Madison, WI April 23, 2005. Title: "Epigenetic transcriptional control in breast cancer: role of estrogen receptor co-activator CARM1".

6. **The Second Great Lake Nuclear Receptor Conference**, Madison, WI Oct. 14-15, 2005 Title: "The physiological function of CARM1 in PPARγ-dependent lipid metabolism".

7. **FASEB summer research conference Biological Methylatio**n, Saxtons River, Vermont, June 24-29, 2006 Title: "Biological function of histone methyltransferase CARM1 in breast cancer and regulation of CARM1 activity by phosphorylation".

8. **FASEB summer research conference Biological Methylation**, Carefree, Arizona, June 1-6, 2008 Title: "Transcriptional regulation of ER by histone methyltransferase CARM1 in breast cancer".

9. **University of Wisconsin**, Endocrinology & Reproductive Physiology Program, January 29, 2009 Title: "ERα and ERβ dimers as new targets for breast cancer drug discovery".

10. **University of California**, Davis, Department of Biochemistry and Molecular Medicine, March 5, 2009 Title: "Interplay of ERβ and CARM1 in ERα transcriptional network".

11. **University of Illinois at Urbana-Champaign**, Department of Biochemistry, March 20, 2009 Title: "Regulation of ERα transcriptional network by ERβ and CARM1".

12. **University of Texas M.D. Anderson Cancer Center**, Science Park-Research Division, March 30th, 2009 Title: "Regulation of ERα transcriptional network by ERβ and CARM1".
13. **The 17th Annual Workshop on Steroid Hormones and Brain Function**, Breckenridge, Colorado, April 1-4, 2009 Title: "Epigenetic mechanism in brain function".

14. **METC annual retreat**, University of Wisconsin-Madison, May 27, 2009 Title: "Environmental factors in breast cancer".

15. **91th Annual Meeting Endo 09**, Washington DC. June 10-13, 2009 Title: "Role of CARM1 in Estrogen Receptor - Dependent Gene Regulation and Cellular Processes".

16. **2009 BIT's 2nd World Cancer Congress**, Beijing, China June 20-24, 2009 Invited Speaker and session chair, Title: "ERβ is a novel target for breast cancer".

17. **National Institute of Biological Science**, Beijing, China July 9th, 2009 Title: Role of CARM1 in Estrogen Receptor - Dependent Gene Regulation and Cellular Processes

18. **Tulane University**, Department of Structural and Cellular Biology, October 29, 2009 Title: "Regulation of ERα transcriptional network by ERβ and CARM1".

19. **Cancer Pharmacology Seminar**, University of Wisconsin Carbone Comprehensive Cancer Center, January 14, 2010, Title: "Cancers modulated by environmental and nutritional estrogens".

20. **Keystone symposium (X-7) Nuclear Receptors: Signaling, Gene Regulation and Cancer**, Keystone Resort, Colorado, March 21-26, 2010 Title: "Yin-Yang Principle for Estrogen Receptor Heterodimers in Breast Cancer: A Targeted Molecular Approach for Therapeutic Development".

21. **Hormone 2010 Program**, New Orleans, Oct. 20-24, 2010 Title: "Searching of estrogen receptor ligands".

22. **Promega Inc.**, Madison, January 20, 2011, Title: "Regulation of ERα transcriptional network by ERβ and CARM1".

23. **Department of Nutrition**, University of Wisconsin-Madison, March 3, 2011, Title: "Breast cancer modulated by environmental and nutritional estrogens".

24. **University of Chicago**, Department of Pathology, Chicago, March 17, 2011 Title: "Regulation of ERα transcriptional activity by ERβ and CARM1 in breast cancer therapy".

25. **Northwestern University Breast Cancer Research Seminar Series**, Chicago, March 18, 2011 Title: "Regulation of ERα transcriptional activity by ERβ and CARM1 in breast cancer therapy".

26. **University of Cincinnati**, Department of Environmental Health, April 4-5, 2011 Cincinnati, Title: "Development of assays for screening environmental estrogens".

27. **Workshop on "How to promote women's career development in cancer research"**, Organizer, May 11, 2011, Madison, WI.

28. **2011 McArdle Symposium on Cancer**, Madison, June 3, 2011 Title: "Epigenetic Transcriptional Control in Breast Cancer".

29. **Department of Human Oncology**, University of Wisconsin, March 15, 2012 Title: "Epigenetic control of breast cancer".

30. **Oregon Health & Science University**, March 20, 2012 Title: "Regulation of estrogen signaling in breast cancer".

31. **World Cancer Congress 2012**, Beijing, China, May 18-21 Title: "Targeting estrogen receptor coactivator for breast cancer treatment".

32. **GTC 2nd Cancer Epigenetics**, Boston, Nov. 8-9, 2012 Title: "Cell-based HTS for Allosteric Activators of the CARM1 Arginine Methyltransferase".

33. **University of Wisconsin Comprehensive Cancer Center Annual Retreat**, Madison, Feb. 2, 2013 Title: "Advancing estrogen receptors and cofactors to personalized breast cancer management".

34. **University of Texas Health Science Center**, Department of Molecular Medicine/Institute of Biotechnology, March 11, 2013 Title: "Advancing estrogen receptors and cofactors to personalized breast cancer management".

35. **Cedars-Sinai Comprehensive Cancer Institute**, Los Angeles, March 20, 2013 Title: "Advancing estrogen receptors and cofactors to personalized breast cancer management".

36. **University of Alabama-Birmingham**, Department of Biochemistry and Molecular Genetics, April 8, 2013, Title: "The mechanism and regulation of CARM1 in breast cancer".

37. **Emory University**, Department of Pharmacology, June 18, 2013 Title: "Advancing estrogen receptors and cofactors to personalized breast cancer management".

38. **AACR Special Conference on Chromatin and Epigenetics in Cancer**, June 19-22, 2013 Title: "CARM1 methylates BAF155 and perturbs chromatin remodeling machinery to enhance tumor progression".

39. **Rutgers, the State University of New Jersey**, Center for Integrative & Computational Biology, October 24, 2013 Title: "Development of assays for screening environmental estrogenic compounds".

40. **Chinese Biological Investigators Society10th Biennial Meeting**, Cancun, Mexico, December 23, 2013 Title “CARM1 methylates chromatin remodeling factor BAF155 to enhance tumor progression and metastasis”.

41. **Sixth Great Lakes Nuclear Receptor Meeting**, Madison, October 11, 2014, Organizer.

42. **University of California-Riverside**, November 19, 2014 Title: "Developing *in vitro* and *in vivo* models for probing environmental estrogens’ action via estrogen receptor dimers".

43. **University of Texas MD Anderson Cancer Center**, December 2, 2014 Title: "Advancing estrogen receptors and cofactors to personalized breast cancer management ".

44. **UT Southwestern University**, December 16, 2014 Title: "Advancing estrogen receptors and cofactors to personalized breast cancer management".

45. **Tsinghua University**, China, July 29, 2015 Title: "Advancing estrogen receptors and cofactors to personalized breast cancer management"

46. **AACR Special Conference on Chromatin and Epigenetics in Cancer**, Sept 24-27, 2015, Title: "MED12 methylation by CARM1 sensitizes human breast cancer cells to chemotherapy drugs".

47. **Tulane University**, New Orleans, March 17, 2016 Title: "Advancing estrogen receptors and cofactors to breast cancer precision medicine"

48. **University of Arkansas**, Little Rock, April 11, 2016 Title: "Advancing estrogen receptors and cofactors to breast cancer precision medicine".

49. **University of Wisconsin O'Brien Research Center Spring Symposium**, Madison, April 5, 2016 Title: "Direct estrogen receptor dimerization using chemical probes".

50. **Rush University Medical Center**, Chicago, May 2, 2016 Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

51. **11th Biennial Chinese Biological Investigator Society meeting**, Chengdu, China, July 30, 2016 Title: "Protein arginine methylation in breast cancer".

52. **University of North Carolina** Greensboro, September 28, 2016 Title: "Development of assays for screening environmental estrogenic compounds".

53. **George M. O'Brien Urology Research Center**, UW-Madison, November 16, 2016 Title: "New estrogen receptor targeting agents for cancer treatment".

54. **University of Wisconsin Department of Pathology Grand Round**, Madison, December 8, 2016 Title: "Advancing estrogen receptors and cofactors to breast cancer precision medicine".

55. **Distinguished Chinese Toxicologist Lecture**, Baltimore, March 13, 2017 Title: "Estrogen Receptor Dimers: Functional Mediators of Environmental Estrogens".

56. **Emory University**, Atlanta, April 6, 2017 Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

57. **Clark University**, Atlanta, April 7, 2017 Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

58. **University of Science and Technology of China**, June 14, 2017 Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

59. **2nd Hangzhou International Breast Cancer Summit**, Precision Medicine in Breast Cancer Application, July 29, 2017.

60. **Midwest Regional Chapter Society of Toxicology**, November 3, 2017 Organizer, Title: "The impact of early-life environmental toxicant exposure to disease development in adulthood"

61. **Thomas Jefferson University**, Philadelphia, January 9, 2018 Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

62. **John Hopkins University**, Baltimore, Feb. 14, 2018 Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

63. **University of Texas Health Science Center**, Department of Molecular Medicine/Institute of Biotechnology, March 13, 2018. Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

64. **Midwest Regional Chapter Society of Toxicology** May 18, 2018 Organizer, Title: "Strategic Plans for Using Alternative Methods in Toxicology"

65. **Tsinghua University**, China, July 27, 2018 Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

66. **3rd HangZhou International Breast Cancer Summit**, China July 28th, 2018.Title: "Development of Innovative Drugs for Endocrine-Resistant Breast Cancer".

67. **3rd Annual Wisconsin Epigenetics Symposium**, Oct. 4th, 2018 Title: "Epigenetic mechanism of breast cancer metastasis"

68. **CBIS meeting**, Shenzhen, China, Dec. 21-24, 2018 Title: " Central roles of PKM2 in the regulation of glucose and lipid metabolism".

69. **Sun Yat-Sen University**, China, Dec. 25, 2018 Title: “Targeting estrogen receptors and cofactors for precision medicine in breast cancer”

70. **Shamen University Nanqiang Lectureship**, China, Dec. 27, 2018 Title: "Targeting estrogen receptors and cofactors for precision medicine in breast cancer"

71. **University of Pittsburgh**, June 12, 2019 Title: “Targeting estrogen receptors and cofactors for precision medicine in breast cancer”

72. **University of Kentucky**, January 22, 2020. Targeting estrogen receptors and cofactors for precision medicine in breast cancer

73. **Indiana University**, March 25, 2020. “Targeting estrogen receptors and cofactors for precision medicine in breast cancer”

74. **Rutgers Cancer Institute of New Jersey**, October 28, 2020. “Targeting estrogen receptors and cofactors for precision medicine in breast cancer”

75. **Tianjing University**, January 16, 2021. “ BAF155 methylation drives breast cancer metastasis”

76. **Marshfield Clinic**, April 27, 2022, “Targeting estrogen receptors and cofactors for precision medicine in breast cancer”

77. **Washington University**, May 3rd, 2022, “Targeting estrogen receptors and cofactors for precision medicine in breast cancer”

78. **Northwestern University**, September 28, 2022, "Targeting estrogen receptors and cofactors for precision medicine in breast cancer"

79. **Roswell Park Cancer Center**, Buffalo, November 17, 2022, "Protein arginine methylation: mechanisms and therapeutic vulnerabilities".

80. **UT Southwestern Medical Center**, 1/18/2023, "Protein arginine methylation: mechanisms and therapeutic vulnerabilities".

81. **GRC: Stress proteins in growth, development and disease**, July 2-7, 2023, "Diptoindonesin G is a middle domain modulator of HSP90"

82. **Medical College of Wisconsin**, 7/28/2023, "Protein arginine methylation: mechanisms and therapeutic vulnerabilities".

83. **UNC Chapel Hill, Department of Biochemistry & Biophysics**, 9/18/2023, "Targeting estrogen receptors and cofactors for precision medicine in breast cancer".

84. **University of Hawaii Cancer Center**, 9/21/2023, "Protein arginine methylation: mechanisms and therapeutic vulnerabilities".

85. **Epicypher 2023: Biological and Clinical Frontiers in Epigenetics**, 11/5-11/10/2023, "CARM1 is a therapeutic vulnerability in breast cancer"

86. **University of Texas Health Science Center at San Antonio**, 12/6/2023, "Protein arginine methylation: mechanisms and therapeutic vulnerabilities".

87. **University of Virginia Commonwealth University**, Department of Pharmacology and Toxicology, 3/12/2024, TBD

88. **Purdue University**, Department of Medical Chemistry and Molecular Pharmacology, 3/21/2024, TBD

89. **2024 Epigenetics at VAI symposium**, 7/8/2024-7/10/2024, TBD

90. **2024 FASEB Science Research Conference on "The Biological Methylation: Fundamental Mechanisms in Human Health and Disease"**, Porto, Portugal, July 28-August 1st, 2024

Teaching Experience:

Biochemistry Department, University of Iowa (1994-1999) Instructed undergraduate students in biochemistry laboratory course for one semester. Worked as a teaching assistant for Biochemistry course for another semester.

The Salk Institute for Biological Studies Supervised several research associates in the lab for molecular biology and biochemistry technologies.

Cancer Biology Seminar Course (Oncology 675), University of Wisconsin-Madison, Course Organizer (Sept. 2005-June 2006)

Cancer Biology and Tumorigenesis (Oncology 703), University of Wisconsin-Madison, Course Organizer, 4 lectures describing epigenetic mechanism in cancer (Oct. 2007-present) and 4 lectures on breast cancer (Oct. 2009-present)

Nuclear Receptor Data Club, University of Wisconsin-Madison, Supervising students' research presentation and inviting outside speakers in nuclear receptor field. This research club will be converted to formal teaching in the future

Introduction to Experimental Oncology (Oncology 401), University of Wisconsin-Madison (Nov. 2008-Nov. 2010) lectures on host-tumor relationships

Colloquium in Environmental Toxicology (METC 606), one guest lecture on environmental estrogens

University of Science and Technology of China, Guest Lecturer, June 12-16, 2017

Guest Lecture for "Cancer Bioengineering" on "Precision Medicine in Breast Cancer", Sept. 14th, 2017.

Guest Lecture for Department of Biomedical Engineering BME601, March 5th, 2019; Feb. 13th, 2020

Mentored Teaching:

1. Graduate Student/Postdoctoral Training:

Current Members:

Eui-Jun Kim, postdoctoral research associate, April 2014-, Recipient of Susan G. Komen Breast Cancer Postdoctoral Fellowship; twice AACR-Takeda Oncology Scholar-in-Training Award

Ang Gao, postdoctoral research associate, April 2019-

Gui Ma, postdoctoral research associate, July 2019-

Megan Bacabac, Ph.D. candidate in Cellular Molecular Biology, December 2020-

Carstyn Joiner, Ph.D. candidate in Cancer Biology, December 2022-

Jingjing Zhou, Ph.D. candidate in Cellular Molecular Biology, July 2023-

Mason McGuire, Ph.D. candidate in Cellular Molecular Biology, December 2023-

Kasey Mitchell, Ph.D. candidate in Endocrine Reproductive Biology, December 2023-

Past Members:

Kristine Donahue, Ph.D. student in Cancer Biology, December 2016-2022, Advanced Opportunity Fellowship (AOF) scholarship, Cancer Biology T32 training grant. Now postdoc in Novartis, San Fransico

Ngai Ting (Steve) Chan, Ph.D. student in Cancer Biology, January 2016-August 2021, Recipient of 2016 Summer Research Fellowship Award from the Endocrine Society. Now postdoc in Cigall Kodoch's lab/Harvard U.

Carlos G. Coriano, 12/2010-8/2016, Ph.D. student in Molecular Environmental Toxicology Center. Recipient of Advanced Opportunity Fellowship (AOF), 2012 SciMed Graduate Research Scholar Best Poster Award, 2012 5th Great Lakes Nuclear Receptor Meeting Best Poster Award. Now Scientific Officer in the Department of Defense, Maryland.

Justine Coburn, 02/2015-12/2016, M.S. in Cellular Molecular Pharmacology program.

Hao Zheng, 12/2010-12/2015, Ph.D. student in Cellular Molecular Biology Program. Recipient of the 5th Great Lakes Nuclear Receptor Meeting Best Oral Presentation Award, 2012, Cellular Molecular Biology Graduate Student Travel Award, 2013. Now postdoctoral fellow in Novartis, Boston.

Ashley Brinkman, 12/2010-12/2015, Ph.D. student in Molecular Environmental Toxicology Center, 2011 Young Investigator of Society of Toxicology in Mid-west schools, recipient of NIH pre-doctoral training grant, 2013 Society of Toxicology Graduate Student Travel Award, 2013 Women in Toxicology SIG Graduate Student Achievement Award. Now Senior Toxicologist in S.C. Johnson, WI.

Purin Charoensuksai, Oncology, 2009-2014, recipient of Thai Government Scholarship. Now Assistant Professor in Silpakorn University, Thailand.

Serife Ayaz Guner, CMB graduate student, 2008-2013, recipient of Turkish Education Ministry PhD Scholarship. Now Assistant Professor in the Department of Molecular Biology and Genetics, Abdullah Gul University, Turkey.

Peter Kuhn, graduate student, 2005-2010, NIH pre-doctoral training grant, recipient of Graduate Student Peer Mentor Award (2010), postdoc in Betty Craig lab at the Department of Biochemistry, University of Wisonsin-Madison. Now Tenured Associate Professor at Edgewood College, Madison, WI.

Emily Powell, graduate student, 2005-2010, recipient of NIH pre-doctoral training grant and Endocrinology Society Presidential Poster Award (2009), now Clinical Research Operations Manager, Parkview Cancer Institute, Indiana.

Erin Shanle, METC graduate student, 2008-2013, Erin is a recipient of 2009 Young Investigator of Society of Toxicology in Mid-west schools; recipient of 2010 DOD Breast Cancer Program predoctoral fellowship; Now Assistant Professor in Lincoln Land Community College, Springfield, IL.

Mariam Al-Dhaheri, postdoctoral research associate, Feb. 2008-Feb. 2010, Now Professor in College of Applied Medical Sciences, Al-Baha University in Saudia Arabia.

Ken Higashimoto, postdoctoral research associate, June 2005-May 2007, Now Assistant Professor in Division of Molecular Genetics and Epigenetics, Department of Biomolecular Sciences, Faculty of Medicine, SAGA University, Japan

Zhi Wen, graduate student, 05/2010-07/2011, recipient of Villas travel grant (2010), Now Assistant Professor in Marshfield Clinic, WI.

Jiacai Wu, postdoctoral research associate, Aug. 2007-2012, Now Professor in Medical College of Gulin, China.

Xin Wang, postdoctoral research associate, July 2011- Dec. 2012, Now Professor in Chinese Agriculture University, Beijing

David Shlensky, MD, Shaprio summer research program, May, 2013-August, 2013

Shinya Aoyama, postdoctoral research associate, June 2013-2015. Now Instructor in University of Tokyo.

Taryn James, postdoctoral research associate, 06/2011-10/2015, recipient of NIH post-doctoral training grant, PhRMA Foundation postdoctoral fellowship. Now postdoc fellow in Dr. Will Ricke Lab, UW.

Zibo Zhao, 12/2011-11/2015, Ph.D. student in Cancer Biology, now Assistant Professor, Northwestern University.

Lu Wang, postdoctoral research associate, August 2011-January 2015, now Assistant Professor of Biochemistry and Molecular Genetics, Northwestern University.

Qiang Wang, MD, exchanged Ph.D. student from the 3rd Military University, Chong Qing, China, August, 2013-2014. Now Professor in 401 Hospital of PLA, Qingdao, Shandong, China.

Shengjie Zhang, PhD, visiting scholar, August 2018- September 2020, Now Associate Professor, Zhe Jiang first Cancer Hospital, China

Huser Bailey, MD, co-mentor with Dr. Hau Le, Shapiro Summer Research Program, May 2020-August 2020

Fabao Liu, postdoctoral research associate, August 2013-September 2021, Now Professor, Shangdong University, China

2. **Undergraduate Student Research Training:** (Independent study/ senior thesis/ minority research/ Hilldale scholar)

Tony Zhu Independent Research Project: 152. Fall 2005

Siang Yun Ang Undergraduate Research Scholar Program: 250. Fall 2005-Spring 2008 Siang Yun received 2007 College of Agricultural and Life Science Undergraduate Honor and Mary Shine Peterson Scholarship with her proposal of characterization of a novel CARM1 substrate CPSF6. Now she is accepted as a graduate student at UCSF Biomedical Science Program**.**

Dhaval Desai Independent Research Project: 299. Spring 2006-Spring 2008, now Cardiovascular Disease Doctor, Milwaukee, WI

Erika Cline HHMI Summer Research Program, now is a graduate student in Program in Biomedical Sciences at the University of Michigan

Addison Zhang Independent Research Project: 699 Summer 2007-Fall, 2008. Now is a MD student at American University of Antigua-College of Medicine, Indian

Elizabeth Rommes Lab Assistant, 2007-2008, now in Pharmacy school, Appalachian State College of Pharmacy, Oakwood, VA

Shaun V. Hernandez Independent Research Project: 699 Summer and Fall, 2008, now is a MD student in UW Medical School

Andree Simone LaStrapes Independent Research Project: 699 Summer 2008

Andrea Bertold Undergraduate Research Scholar Program, Fall 2008, Spring 2009

Alexander Katler Independent Research Project: 699 Summer 2009

Diana Shiroky Independent Research Project: 152. Spring 2010

Victoria Laurette Eastlund Independent Research Project: 152. Spring 2010

Casey Drake Spitzer, Pharmacology-Toxicology program: 699. Summer 2010

Chelsea Reiter, Independent Research Project: 699. Fall 2010

Stacey Ruffolo, Independent Research Project: 699. Summer & Fall 2011

Paulina Yarmarkovich, Independent Research Project: 699. Fall 2011

Rogelio Aguirre, Integrated Biological Sciences Summer Research Program, 2012

MacKenzie Thayer, independent Research Project: 699. Spring, 2013

Jung Min Lee, Lab volunteer, Fall 2011

Yanrong Ji, independent research project: 699. Spring-Fall, 2015

Shanika Kingston, Integrated Biological Sciences Summer Research Program, 2015

Yang Zhang, independent research project: 699. Fall, 2016

Rachel Von Paumgartten, independent research project: 152, 2018

Zoey Hanson, independent research project: 152, Spring 2020

Andrea Vargas, Medical Student Training Program, Summer 5/31-8/6, 2022

Sydney Schjoneman, independent research project: 152, 2022-2023

Isaac Hayes, independent research project: 152, Fall 2023

Lucy Hu, independent research project: 152, 2022-2023

Xingjian Yang, independent research project: 152, Fall, 2023

3. Graduate Student Thesis/Certification Committees:

McArdle Lab / active:
Amber Zhou (Beth Weaver), Amanda Loke (Paul Lambert), Shirsa Udgata (Dustin A Deming).

McArdle Lab / graduated:
Danielle R. Westhoff (B. Sugden), Jessica Reusch (Janet Mertz), Halena Vandeusen (R. Kalejta), Coral Wille (Shannon Kenney), Lina Ding (James Shull), Adam Hume (R. Kalejta), Randy Hill (R. Kalejta), Jiwon Hwang (R. Kalejta), Scott E. Lindner (B. Sugden), Rob Chumanov (Richard Burgess), Travis Schmit (Ahmad Nihal), Jenny Lamberski (Richard Burgess), Stephanie Jo Ellison (E. Alarid), Amy Ellis (Janet Mertz), Amanda Esch (D. Burgess), Kathryn Norby (B. Sugden), Yan Liu (Chris Bradfield), Lily Wong (Linda Schuler), Prahba Shrestha (Bill Sugden), Tawin Iempridee (Janet Mertz), Geonyoung Ahn (Elaine Alarid), Ya-Fang Chiu (B. Sugden), Mark Eichelberg (Michael Gould), Emily Albright (Rob Kalejta), Anqi Wang (Eric Johannsen), Chris Gelbmann (Rob Kalejta), Emmanuel Vazquez-rivera (Chris Bradfield), Laura Funk (Beth Weaver), Katherine Senn (Heidi Dvinge), Joni Baker (Vincent Cryns), Stuart Fogarty (Vincent Cryns).

Outside / active:
Caleb Dillingham (Rupa Sridharan), Tianmu Wen (Richard Anderson), Hassler Rengifo (Gopal Lyer), Cassie Leech (John Denu), Noah Carrillo (Vince Cryns), Zachary Kauffman (Joshua M Lang), Muhammad Salah (Vince Cryns), Xiaoyue Gao (Lixin Rui), Tanaya Purohit (David Jarrad), ZhongMou Jin (Jessica Lang), Trevor James Wolfe (Vince Cryns/Richard Anderson).

Outside / graduated:
Shannon Reagan-Shaw (Ahmad Nihal), Sohel Shamsuzzaman (Wes Pike), Paul Goetsch (Wes Pike), Felipe Burns (Richard Peterson), Nathan Damaschke (David Jarrard), Clara Hyunhee Jeong (postdoc, Will Ricke), Jillian Johnson (Lingjun Li/John Kao), Mele Avilla (David Jarrard), Ka Yang (Weiping Tang), Conrad Valdez (postdoc, Will Ricke), Yuyuan Wang (Sarah Gong), DaCheng Fan (Jiaoyang Jiang), Scott Bosley (Emery Bresnick), Christian Ortiz Hernandez (Will Ricke).

4. Mentoring of junior faculty and K grant scholars

Teresa T. Liu, K-12 scholar, University of Wisconsin, Department of Urology, 2016-2019

Sarah Gong, K-25 scholar, University of Wisconsin, Department of Biomedical Engineering, 2015-2018

Nian-qing Shi, K-25 scholar, University of Wisconsin, Department of Medicine, 2015-2018

Aussie Suzuki, Faculty mentoring committee, University of Wisconsin, Department of Oncology, 2019-

Gopal Iyer, Faculty mentoring committee, University of Wisconsin, Department of Human Oncology, 2019-

Valentina Lo Sardo, Faculty mentoring committee, University of Wisconsin, Department of Cell & Regenerative Biology, 2020-2023

Ting Fu, Faculty mentoring committee, University of Wisconsin, School of Pharmacy, 2020-

Huy Dinh, Faculty mentoring committee, University of Wisconsin, Department of Oncology, 2020-

Kinjal Majumder, Faculty mentoring committee, University of Wisconsin, Department of Oncology, 2020-

David Al-Adra, Faculty mentoring committee, University of Wisconsin, Department of Surgery, 2023-

5. Training Program Membership:

Cancer Biology, Cell and Molecular Biology, Molecular and Cellular Pharmacology, Molecular Environmental and Toxicology Program, Endocrinology and Reproductive Physiology Program

Research Support:

Active:

1R01 CA236356 (PI: Xu) 01/11/2024 to 12/31/2028 1.8 CM
NIH/NCI $250,000 DC
Protein Arginine Methylation in Breast Cancer
The specific aims of this proposal are: (1) Determine if MAP2K4 methylation augments the kinase activity of MAP2K4 and enhances JNK activation; and (2) Delineate the cell autonomous transcriptional network and signaling pathways affected by dual inhibition of CARM1 and PI3K; and (3) Develop combined targeted and immunotherapy regimen for treating metastasis in syngeneic mouse models.

R01 CA268183-01A1 (PI: Xu) 04/01/2022 – 3/30/2027 1.8 CM
NIH/NCI $315,500 DC
Ctr9 as a predictive biomarker for EZH2 inhibitor sensitivity
The aims of this proposal are: (1) Dissect how Ctr9 depletion results in the transition from ER+ luminal cells to SLCs; (2) Delineate the roles of Jarid 2 and KDM6A during ER+ luminal to SLC transition and EZH2i sensitivity; (3) Determine whether Ctr9 and H3K27me3 are predictive biomarkers for EZH2i sensitivity in ER+ breast cancer.

R01 CA281024 (PI: Xu) 03/10/2023-02/28/2028 1.2 CM
NIH/NCI $419,000 TC
Functions of BRD8 in HR+/HER2+ Breast Cancer
The major goals of this project are: (1) Elucidate the mechanism of BRD8 activation by anti-HER2 agents in HER2+ cells at the single cell level; (2) Define the roles of BRD8 in ER signaling activation and ER-independent functions upon HER2 blockade; (3) Test whether ablation of BRD8 sensitizes HR+/HER2+ breast cancer to anti-HER2 blockade.

5P30 CA 014520 – 47 (PI: Bailey, H.)
NCI
UW Comprehensive Cancer Center Support $22,950,650 1.2 CM
Role: Genetics & Epigenetics Program co-Leader

R01 (PI: Cheng) 04/01/2020 – 03/31/2025 0.48 CM
Northwestern University/NIH $80,182 TC requested (salary support only)

Role of Protein Methylation in Cell Mitosis and Glioblastoma
Dr. Xu will provide intellectual input in dissecting PRMT functions in cancers.
Role: Subcontract PI

1 R01 CA266354-01 (PI: Rui) 02/01/2022-1/31/2027 0.6 CM
NCI
Targeting EGR1 Signaling Pathways in Diffuse Large B Cell Lymphoma
The aims of this proposal are: (1) Elucidate effects of EGR1 on oncogenesis; (2) Establish the role of EGR1 in ibrutinib resistance; and (3) Co-target EGR1 downstream BRD4 and type I interferon signaling to overcome drug resistance in DLBCL.
Role: Co-I

R01 CA252085-01A1 (PI: Weaver) 04/01/2022-3/30/2027 0.6 CM
NCI
Interphase Roles of Mitotic Arrest Deficient 1 (Mad1) in Tumor Initiation and Progression
The aims of this proposal are: (1) determine which functions of Mad1 upregulation are sufficient for tumor initiation and metastasis; (2)define mechanisms by which Mad1 functions at the Golgi to direct a5 integrin secretion.
Role: Co-I

BC230282 (PI: Xu) 12/15/2023 –12/14/2026 0.6 CM
DOD/ARMY $1,166,249 TC
Development of New Agents for Treatment of Hormone Receptor+/HER2+ Breast Cancer
Goals: (1) Structural based design and characterization of DipG analogues; (2) determine the anticancer efficacies of DipG derivatives in ER+/HER2+ cell lines and organoids; (3) determine if a Dip G derivative inhibits growth and metastasis of patient-derived xenograft (PDX) tumors.

Pending:

1 R21 CA288336 (PI: Xu) 4/1/2024 – 3/31/2026 0.6 CM
NIH/NCI $275, 000 DC
A New Strategy for Screening Effective Therapies for Metastatic Wilms Tumors
The major goals of this project are: (1) To assess the pluripotency of WiT49-iPSCs; (2) To identify the gene signature and chromatin features associated with blastemal WT; (3) To develop novel therapeutic strategies for the treatment of WT.

Award in progress. Received 1%, October 2023

3 R01 CA268183-01A1 (PI: Xu) 08/01/2024 – 07/31/2026 0.01 CM
NIH/NCI $463,903
Title: Ctr9 as a Predictive Biomarker for EZH2 Inhibitor Sensitivity
Major Goals: The aims of this supplement are: (1) determine if CTR9 depletion results in the transition from ER+ luminal cells to SLCs; (2) delineate the roles of KDM6A during ER+ luminal to SLC transition and EZH2i sensitivity; and (3) determine whether CTR9 levels determine EZH2i sensitivity in vivo.

University of Wisconsin Breast SPORE (co-PI) 06/2025 – 05/2030 2.4 CM
NIH/NCI $10,851,695
Major Goals: The University of Wisconsin (UW) Breast SPORE seeks to improve breast cancer outcomes through translational science. The UW Breast SPORE is built on multidisciplinary research in medicine,

engineering, pharmacy, and veterinary medicine; horizontal collaborations across Wisconsin, the Big Ten Consortium, and industry partners; integral advocate feedback; and integrated Patient-Reported Outcomes. Each project addresses a critical need in breast cancer in Wisconsin and across the U.S., including obesity, endocrine resistance, and late recurrence.

Past:

Start-up Funds, Department of Oncology, University of Wisconsin Comprehensive Cancer Center, UW Medical School, UW Graduate School

Elsa U. Pardee Foundation, Epigenetic control of estrogen receptor (ER)-regulated transcription in breast cancer by CARM1, 12/14/06 to 12/31/07, $123,685 total costs.

Graduate School, University of Wisconsin-Madison, Exploring Natural Estrogenic Compounds for Breast Cancer Prevention and Treatment, July 1st, 2007 to June 30th, 2008, $28,647 total costs.

Villas Life Cycle Professorship, University of Wisconsin-Madison, September, 2007- June, 2008, $20,715 total costs.

Susan Komen Foundation, Regulation of ER Transcriptional Potential by the Chromatin Architectural Factor, HMGB1, 5/1/06 to 4/30/09, $249,695 total costs (~66,500 DC annually).

Endece Inc. Contract work, 07/2010-11/2010, (Wei Xu, PI) $69,770 Title: Characterization of two ERβ ligands developed by Endece Inc.

University of Wisconsin Paul P. Carbone Comprehensive Cancer Center Investigator-Initiated TrialApplication, Personalized therapy of breast cancer for older-aged women via ERβ and REST, 4/1/09 to 3/31/11, $25,000 DC

NIH Roadmap, Solicitation of Assays for High Throughput Screening (HTS) in the Molecular Libraries Probe Production Centers Network (MLPCN) (R03) (Wei Xu, PI), 11/1/09-10/31/11, $25,000 DC annually Identification of ERα/ERβ heterodimer specific ligands using high throughput assays. Goal: High throughput screening of ERα/ERβ heterodimer specific ligands in the molecular libraries probe production centers network (MLPCN)

University of Wisconsin Medical School Research Committee Award (Wei Xu, PI), 09/2010 $20,000 Target ERβ in triple-negative breast cancer.

Wisconsin Women's Health Foundation (Wei Xu, PI), 12/2010 to 11/2011, $10,000 ERα/β Heterodimer Is a Novel Target in Breast Cancer Prevention and Treatment

National Institutes of Health/NCI RO1, Transcriptional Regulation of Estrogen Receptor (ER) by CARM1, 4/1/08 to 3/31/13, $207,000/year direct cost.

Greater Milwaukee Foundation, **Shaw Scientist Award**, Towards understanding epigenetic routes to endocrine resistance in breast cancer, 7/1/08 to 6/30/13, $40,000 DC annually

DOD Breast Cancer Research Program (PI: Erin Shanle, Mentor: Xu), Targeting ERβ in triple negative breast cancer, 2/1/2011 to 1/31/2014, $129,000 total.

University of Wisconsin Graduate School Villas Associate Award, 7/1/2012-6/30/2014, $25,000 total.

DOD ERA of HOPE Award (PI: Wei Xu), Old receptors, new treatment strategies for breast cancer, 4/1/2011-7/30/2016, $500,000 annually.

R21 CA196653 (PI: Wei Xu, co-PI: Sarah Gong), Targeting EGFR positive breast cancer using nanoparticles loaded with the anti-cancer drug aminoflavone, 01/01/16 to 12/30/17, $70,000 DC

Rock River Cancer Research Foundation (Xu, PI) Next Generation ER Blockers for Treatment of Endocrine Resistant Breast Cancer, 4/1/2018 to 3/31/2019, $50,000 DC

59244 Catalyst Award (Xu, PI) 11/30/2018 – 11/29/2019
Falk Research Trust $270,000 DC
Development of Novel Agents for Treatment of Endocrine Resistant Breast Cancer
This project has three objectives: (1) Synthesize novel Dip G analogues to determine the basic pharmacophore of Dip G and improve the potency and pharmacological properties of Dip G; (2) delineate the mechanism of action of Dip G; and (3) compare the anti-cancer effects of Dip G and HX3055 to other SERDs in endocrine-resistant cell line models and xenografts.
Role: PI

UW ICTR (Xu, PI) 11/1/2018 to 10/30/2019
$50,000 DC
A New Approach for Treatment of Endocrine Resistant Breast Cancer
This project has three specific Aims: (1) Determine if degradation of ERα by regulating CHIP is the primary mechanism by which Dip G suppresses ERα+ tumor progression. (2) Assess the anti-cancer effect of Dip G and Dip G-D1 in ER mutant expressing MCF7 cell lines in vitro and in vivo. (3) Compare the efficacy of faslodex, Dip G, Dip G-D1, AZD9496 and GDC-0810 to inhibit growth and metastasis of PDX tumors harboring ER mutations.

UW Draper Technology Innovation Fund (TIF) 11/1/2018 to 10/30/2019
$50,000 DC
Development of Novel Agents for Treatment of Endocrine Resistant Breast Cancer
This project has two objectives: (1) we will determine if ERalpha degradation correlates with inhibition of ERalpha transcription activity and inhibition of cell proliferation in MCF7 cell line model. (2) we will compare the anti-cancer effects of all aforementioned compounds in ERalpha mutant expressing MCF7 xenograft mouse models.

AACR-Bayer Innovative and Discovery Grant 07/01/2019-6/30/2020
19-80-44-Xu $25,000 DC
Next Generation ER blockers for treating endocrine resistant breast cancer

Susan G. Komen Foundation (Postdoc Fellowship to Eui-Jun Kim, **Mentor: Xu**) 10/1/2017 to 9/20/2020
PDF17481306 $185,000 total
Epigenetic changes promote metastasis of breast cancer
The aims of this proposal are: (1) Test whether me-BAF155 promotes cancer metastasis by cooperating with BRD4 to potentiate genes addicted to SEs. (2) Test the hypothesis that me-BAF155 activates YAP/TAZ/TEAD target genes to exert oncogenic effects.

This award was broadcasted in local news channel.
http://www.channel3000.com/health/susan-g-komen-funds-research-on-triple-negative-breast-cancer/626734707

1R01CA213293(PI: Xu) 02/01/17 to 01/31/22 2.4 CM
NIH/NCI $104,000 DC
Protein Arginine Methylation in Chemotherapy Resistance
The aims of this proposal are: (1) test if methylation of MED12 level determines the response to chemotherapy in breast cancer cells; (2) define the mechanisms by which methylated MED12 confers chemosensitivity; and (3) test the clinical relevance of the MED12 methylation in chemo-resistance using large cohorts of clinical specimens.

The Ride Scholar Award (PI: Xu) 1/1/2022-12/31/2022
UW Comprehensive Cancer Center $50,000
CARM1 inhibition enhances immunotherapy response in triple-negative breast cancer
The aims of this project are: (1) To determine how CARM1 inhibition activates ISGs; (2) To test if me-BAF155 levels in CTCs serve as a biomarker for response to CARM1i; (3) To determine whether CARM1i sensitizes tumors to PD-1/PD-L1 immunotherapy by altering tumor infiltrating lymphocytes (TILs).

BC190650 (PI: Xu) 01/01/2020 – 12/31/2022 1.8 CM
DOD/ARMY $1,599,480 TC
Development of New Agents for Treating Endocrine Resistant Breast Cancer
The aims of this project are: (1) determine the mechanism of action of Dip G and the dependency of Dip G on ERalpha, CHIP and Hsp90 to mediate global proteome changes and growth inhibition in ER+ cell line models; (2) assess the anti-cancer effect of Dip G in comparison with other SERDs and the synergy of Dip G with FDA-approved drugs in organoid models; and (3) determine the efficacy of Dip G alone and in combination with other drugs to inhibit growth and metastasis of PDX tumors harboring ER mutations.
Role: PI

Catalyst Award (PI: Xu) 12/1/2021-11/30/2023 1.2 CM
Falk Medical Research Foundation $300,000 TC
CARM1 inhibition enhances immunotherapy response in triple-negative breast cancer
The aims of this project are: (1) Determine how CARM1 inhibition activates ISGs; (2) Test if me-BAF155 levels in CTC serve as a biomarker for response to CARM1i; (3) Detemine whether CARM1i sensitizes tumors to PD-1/PD-L1 immunotherapy by altering infiltrating lymphocytes (TILs).

1R01 CA236356 (PI: Xu) 01/01/19 to 12/31/23 2.4 CM
NIH/NCI $228,000 DC
Protein Arginine Methylation in Breast Cancer
The specific aims of this proposal are: (1) test the hypothesis that me-BAF155 forms distinct subcomplexes from canonical SWI/SNF, thereby gaining specific genomic associations and regulating target gene expression in ERα- breast cancer; and (2) test the hypothesis that me-BAF155 activates YAP/TAZ/TEAD target genes to exert oncogenic effects.

Laboratory Share of Royalty and Licensing Income:

Wisconsin Alumni Research Foundation: Generation of a rabbit polyclonal CARM1 antibody for biological studies. Award number: MSN119323, $2,100 (7/1/07 to 6/30/33)

Methyl-BAF155 and methyl-CARM1 antibodies licensed to Thermo Scientific, $16,000 (7/1/14 to 6/20/33)

Patents:

Synthesis of novel analogs of Diptoindonesin G, compounds formed thereby, and pharmaceutical compositions containing them. US patent # 10508092, 12/17/2019. Inventors: Wei Xu, Weiping Tang, Jitian Liu, Jill Marie Kolesar

Therapeutic cationic peptides and unimolecular nanoparticles for efficient delivery thereof US Patent # 11672766, Started 6/13/2023. Inventors: Sarah Gong, Wei Xu, Yunan Yang, Fabao Liu

Synthesis of novel small molecule CARM1 degraders, compounds formed thereby, and pharmaceutical compositions containing them. P230336US01, 1/9/2024. Inventors: Weiping Tang, Wei Xu, Haibo Xie and Megan Bacabac