# Jinsong Zhang, PhD

Associate Professor Department of Pharmacology and Physiology School of Medicine Saint Louis University Member, The Alvin J. Siteman Cancer Center, Barnes-Jewish Hospital & Washington University in St. Louis ♥ 1402 S Grand Blvd., St. Louis, MO 63104

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# **EDUCATION**

- Ph.D. Biochemistry and Molecular Biophysics, University of Pennsylvania, Philadelphia, 1999 Advisor: Mitchell Lazar, MD, PhD, Willard and Rhoda Ware Professor in Diabetes and Metabolic Diseases
- M.S. Biochemistry, Shanghai Institute of Biochemistry, Chinese Academy of Sciences, 1991 Advisor: Prof. Wang-Yi Liu
- B.S. Biochemistry, Nanjing University, 1988

#### **APPOINTMENTS**

2014 – Saint Louis University
Associate Professor, Department of Pharmacology and Physiology, 2014–

Member, The Alvin J. Siteman Cancer Center,

Barnes-Jewish Hospital and Washington University School of Medicine in St. Louis, 2018 –

2005–13 University of Cincinnati

Assistant Professor, Department of Cell Biology, Neuroscience and Anatomy, 2005–2008 Department of Cancer and Cell Biology, 2009–

1999–05 The Rockefeller University

Postdoctoral Researcher, Laboratory of Biochemistry and Molecular Biology Mentor: Robert G. Roeder, PhD, Arnold and Mabel Beckman Professor

1991–94 Shanghai Institute of Cell Biology, Chinese Academy of Sciences

Assistant Investigator, Laboratory of Molecular Immunology (Prof. Yeh Ming)

#### **RESEARCH INTERESTS**

- Development of targeted therapeutics for cancer and AML
- Transcriptional, signaling, epigenetic and structural mechanisms in cancer
- Bioinformatics and high-throughput sequencing techniques

## **CERTIFICATES**

Machine Learning & Artificial Intelligence

University of Washington

o3/2017 Machine learning 4-course specialization: Machine Learning Foundations: A Case Study Approach, Machine Learning: Regression, Machine Learning: Classification, Machine Learning: Clustering & Retrieval, Certificate 52DHDQH5WMHA

Deeplearing.ai

O4/2018 Deep learning 5-course specialization: Neural Networks and Deep Learning, Convolutional Neural Networks, Sequence Models, Structuring Machine Learning Projects, Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization, Certificate WM3RB7PRE8YK

The Johns Hopkins University

08/2016 Practical Machine Learning Certificate WK8V77S6E6FZ

# C++, R, Python, Bioconductor, Bioinformatics

The Johns Hopkins University

05/2017 Bioconductor for Genomic Data Science, Certificate YBJNHF3AHXF9

09/2016 Python for Genomic Data Science, Certificate 6PHJL78RUHQK

08/2016 R Programming, Certificate HU8SNQBC3WT7

07/2016 The Data Scientist's Toolbox, Certificate F6HDMFU69YRR

08/2016 Exploratory Data Analysis, Certificate UCTD4LCELDKX

08/2016 Statistical Inference, Certificate NKPTD929M4XA

08/2016 Regression Models, Certificate *QSY7Y4AMQKEZ* 

09/2016 Getting and Cleaning Data, Certificate 94V74M3L3QQB

09/2016 Developing Data Products, Certificate FK3BZJAP9XES

09/2016 Reproducible Research, Certificate *T94HELZS95Q9* 

09/2016 Python for Genomic Data Science, Certificate 6PHJL78RUHQK

University of California, San Diego

10/2016 Finding Hidden Messages in DNA (Bioinformatics I) (with Honors), Certificate  $5WGAZ_7GQ_{37}WT$ 

II/2016 Genome Sequencing (Bioinformatics II) (with Honors), Certificate 29BM838LL8P7

University of California, Santa Cruz

II/2016 C++ For C Programmers, Certificate 476J9 TPDCUGD

# **PUBLICATIONS**

	Citations	h-index	i10-index
All	5123	29	42
Since 2017	1553	22	36

#### **Featured Research Articles**

Steinauer N, Guo C, **Zhang J**, The transcriptional corepressor CBFA2T3 inhibits all-trans-retinoic acid-induced myeloid gene expression and differentiation in acute myeloid

- leukemia, J Biol Chem 295:8887-8900, https://doi.org/10.1074/jbc.RA120.013042
- Steinauer N, Guo C, Huang C, Wong M, Tu Y, Freter C E, **Zhang J**, Myeloid translocation gene CBFA2T3 directs a relapse gene program and determines patient-specific outcomes in AML, **Blood Adv** 3:1379-1393, https://doi.org/10.1182/bloodadvances.2018028514
- Guo C, Li Y, Gow C H, Wong M, Zha J, Yan C, Liu H, Wang Y, Burris T P, **Zhang J**, The optimal corepressor function of nuclear receptor corepressor (NCoR) for peroxisome proliferator-activated receptor gamma requires G protein pathway suppressor 2, **Journal of Biological Chemistry** 290:3666-3679, https://doi.org/10.1074/jbc.M114.598797
- Hu Q, Guo C, Li Y, Aronow B J, **Zhang J**, LMO7 mediates cell-specific activation of the Rho-myocardin-related transcription factor-serum response factor pathway and plays an important role in breast cancer cell migration, **Mol Cell Biol** 31:3223-40, https://doi.org/10.1128/MCB.01365-10
- Guo C, Hu Q, Yan C, **Zhang J**, Multivalent binding of the ETO corepressor to E proteins facilitates dual repression controls targeting chromatin and the basal transcription machinery, **Mol Cell Biol** 29:2644-57, https://doi.org/10.1128/MCB.00073-09
- **Zhang J**, Kalkum M, Yamamura S, Chait B T, Roeder R G, E protein silencing by the leukemogenic AMLI-ETO fusion protein, **Science** 305:1286-9, https://doi.org/10.1126/science.1097937
- Zhang J, Kalkum M, Chait B T, Roeder R G, The N-CoR-HDAC3 nuclear receptor corepressor complex inhibits the JNK pathway through the integral subunit GPS2, **Molecular Cell** 9:611-623, https://doi.org/10.1016/S1097-2765(02)00468-9
- Gelmetti V, **Zhang J** (co-first author), Fanelli M, Minucci S, Pelicci P G, Lazar M A, Aberrant recruitment of the nuclear receptor corepressor-histone deacetylase complex by the acute myeloid leukemia fusion partner ETO, **Mol Cell Biol** 18:7185-91, https://doi.org/10.1128/MCB.18.12.7185

#### **Complete List of Research Articles**

- Braden K, Campolo M, Li Y, Chen Z, Doyle T M, Giancotti L A, Esposito E, **Zhang J**, Cuzzocrea S, Arnatt C K, Salvemini D, Activation of GPR183 by 7alpha,25-Dihydroxycholesterol Induces Behavioral Hypersensitivity through Mitogen-Activated Protein Kinase and Nuclear Factor-kappaB, **The Journal of pharmacology and experimental therapeutics** 383:172 181-172 181, https://doi.org/10.1124/jpet.122.001283
- Griffett K, Hayes M, Bedia-Diaz G, Appourchaux K, Sanders R, Boeckman M P, Koelblen T, **Zhang J**, Schulman I G, Elgendy B, Burris T P, Antihyperlipidemic Activity of Gut-Restricted LXR Inverse Agonists, **ACS Chem Biol** 17:1143-1154, https://doi.org/10.1021/acschembio.2c00057
- Sur Subhayan, Steele Robert, Ko Ben C B, **Zhang J**, Ray Ratna B, Long noncoding RNA ELDR promotes cell cycle progression in normal oral keratinocytes through induction of a CTCFFOXM1-AURKA signaling axis, **Journal of Biological Chemistry** 298:101895, https://doi.org/10.1016/j.jbc.2022.101895
- Banerjee S, Ghoshal S, Girardet C, DeMars K M, Yang C, Niehoff M L, Nguyen A D, Jayanth P, Hoelscher B A, Xu F, Banks W A, Hansen K M, **Zhang J**, Candelario-Jalil E, Farr S A, Butler A A, Adropin correlates with aging-related neuropathology in humans and improves cognitive function in aging mice, **NPJ Aging Mech Dis** 7:23,

- https://doi.org/10.1038/s41514-021-00076-5
- Ghoshal S, Banerjee S, **Zhang J**, Niehoff M L, Farr S A, Butler A A, Adropin transgenesis improves recognition memory in diet-induced obese LDLR-deficient C57BL/6J mice, **Peptides** 146:170678, https://doi.org/10.1016/j.peptides.2021.170678
- Khatun M, **Zhang J**, Ray R, Ray R B, Hepatitis C virus evades interferon signaling by suppressing long noncoding RNA linc-pint involving C/EBP-b, **Journal of Virology** 95:e00952-21, https://doi.org/10.1128/JVI.00952-21
- Li J, Guo C, Rood C, **Zhang J**, A C terminus–dependent conformational change is required for HDAC3 activation by nuclear receptor corepressors, **Journal of Biological Chemistry** 279:101192, https://doi.org/10.1016/j.jbc.2021.101192
- Mukherjee S, Chakraborty M, Ulmasov B, McCommis K, **Zhang J**, Carpenter D, Msengi E N, Haubner J, Guo C, Pike D P, Ghoshal S, Ford D A, Neuschwander-Tetri B A, Chakraborty A, Pleiotropic actions of IP6K1 mediate hepatic metabolic dysfunction to promote nonalcoholic fatty liver disease and steatohepatitis, **Mol Metab** 54:101364, https://doi.org/10.1016/j.molmet.2021.101364
- Steinauer N, Zhang K, Guo C, **Zhang J**, Computational Modeling of Gene-Specific Transcriptional Repression, Activation and Chromatin Interactions in Leukemogenesis by LASSO-Regularized Logistic Regression, **IEEE/ACM Trans Comput Biol Bioinform** 18:2109-2122, https://doi.org/10.1109/TCBB.2021.3078128
- Banerjee S, Ghoshal S, Stevens J R, McCommis K S, Gao S, Castro-Sepulveda M, Mizgier M L, Girardet C, Ganesh Kumar K, Galgani J E, Niehoff M L, Farr S A, **Zhang J**, Butler A A, Hepatocyte expression of the micropeptide adropin regulates the liver fasting response and is enhanced by caloric restriction, **Journal of Biological Chemistry** 295:13753-13768, https://doi.org/10.1074/jbc.RA120.014381
- Griffin P, Sheehan P W, Dimitry J M, Guo C, Kanan M F, Lee J, **Zhang J**, Musiek E S, Rev-erb alpha mediates complement expression and diurnal regulation of microglial synaptic phagocytosis, **eLife** 9:1-17, https://doi.org/10.7554/ELIFE.58765
- Guo C, Li J, Steinauer N, Wong M, Wu B, Dickson A, Kalkum M, **Zhang J**, Histone deacetylase 3 preferentially binds and collaborates with the transcription factor RUNX1 to repress AMLI-ETO-dependent transcription in t(8;21) AML, **J Biol Chem** 295:4212-4223, https://doi.org/10.1074/jbc.RA119.010707
- Lananna B V, McKee C A, King M W, Del-Aguila J L, Dimitry J M, Farias F H G, Nadarajah C J, Xiong D D, Guo C, Cammack A J, Elias J A, **Zhang J**, Cruchaga C, Musiek E S, Chi3l1/YKL-40 is controlled by the astrocyte circadian clock and regulates neuroinflammation and Alzheimer's disease pathogenesis, **Science Translational Medicine** 12:eaax3519, https://doi.org/10.1126/scitranslmed.aax3519
- Steinauer N, Guo C, **Zhang J**, The transcriptional corepressor CBFA2T3 inhibits all-trans-retinoic acid-induced myeloid gene expression and differentiation in acute myeloid leukemia, **J Biol Chem** 295:8887-8900, https://doi.org/10.1074/jbc.RA120.013042
- Yosten G L, Harada C M, Haddock C, Giancotti L A, Kolar G R, Patel R, Guo C, Chen Z, **Zhang J**, Doyle T M, Dickenson A H, Samson W K, Salvemini D, GPR160 de-orphanization reveals critical roles in neuropathic pain in rodents, **J Clin Invest** 130:2587-2592, https://doi.org/10.1172/JCI133270
- Butler A A, **Zhang J**, Price C A, Stevens J R, Graham J L, Stanhope K L, King S, Krauss R M,

- Bremer A A, Havel P J, Low plasma adropin concentrations increase risks of weight gain and metabolic dysregulation in response to a high-sugar diet in male nonhuman primates, **J Biol Chem** 294:9706-9719, https://doi.org/10.1074/jbc.RA119.007528
- Carpenter K J, Valfort A C, Steinauer N, Chatterjee A, Abuirqeba S, Majidi S, Sengupta M, Di Paolo R J, Shornick L P, **Zhang J**, Flaveny C A, LXR-inverse agonism stimulates immune-mediated tumor destruction by enhancing CD8 T-cell activity in triple negative breast cancer, **Sci Rep** 9:19530, https://doi.org/10.1038/s41598-019-56038-1
- Griffin P, Dimitry J M, Sheehan P W, Lananna B V, Guo C, Robinette M L, Hayes M E, Cedeño M R, Nadarajah C J, Ezerskiy L A, Colonna M, **Zhang J**, Bauer A Q, Burris T P, Musiek E S, Circadian clock protein Rev-erb alpha regulates neuroinflammation, **Proceedings of the National Academy of Sciences of the United States of America** 116:5102-5107, https://doi.org/10.1073/pnas.1812405116
- Roby D A, Ruiz F, Kermath B A, Voorhees J R, Niehoff M, **Zhang J**, Morley J E, Musiek E S, Farr S A, Burris T P, Pharmacological activation of the nuclear receptor REV-ERB reverses cognitive deficits and reduces amyloid-beta burden in a mouse model of Alzheimer's disease, **PLoS One** 14:e0215004, https://doi.org/10.1371/journal.pone.0215004
- Steinauer N, Guo C, Huang C, Wong M, Tu Y, Freter C E, **Zhang J**, Myeloid translocation gene CBFA2T3 directs a relapse gene program and determines patient-specific outcomes in AML, **Blood Adv** 3:1379-1393, https://doi.org/10.1182/bloodadvances.2018028514
- Cui N, **Zhang J**, Huang H, Lu L, Epigenetic regulator ARID1A and stem cell transcription factor SOX9 in the maintenance of pancreatic ductal cell differentiation state and development of intraductal papillary mucinous neoplasia (IPMN) and pancreatic ductal adenocarcinoma (PDAC), **Translational Cancer Research** 7:S748-S751, https://doi.org/10.21037/tcr.2018.07.25
- Ghoshal S, Stevens J R, Billon C, Girardet C, Sitaula S, Leon A S, Rao D C, Skinner J S, Rankinen T, Bouchard C, Nuñez M V, Stanhope K L, Howatt D A, Daugherty A, **Zhang J**, Schuelke M, Weiss E P, Coffey A R, Bennett B J, Sethupathy P, Burris T P, Havel P J, Butler A A, Adropin: An endocrine link between the biological clock and cholesterol homeostasis, **Molecular Metabolism** 8:51-64, https://doi.org/10.1016/j.molmet.2017.12.002
- Lin S, Ptasinska A, Chen X, Shrestha M, Assi S A, Chin P S, Imperato M R, Aronow B J, **Zhang J**, Weirauch M T, Bonifer C, Mulloy J C, A FOXO1-induced oncogenic network defines the AML1-ETO preleukemic program, **Blood** 130:1213-1222, https://doi.org/10.1182/blood-2016-11-750976
- Sitaula S, **Zhang J**, Ruiz F, Burris T P, Rev-erb regulation of cholesterologenesis, **Biochem Pharmacol** 131:68-77, https://doi.org/10.1016/j.bcp.2017.02.006
- Welch R D, Guo C, Sengupta M, Carpenter K J, Stephens N A, Arnett S A, Meyers M J, Sparks L M, Smith S R, **Zhang J**, Burris T P, Flaveny C A, Rev-Erb co-regulates muscle regeneration via tethered interaction with the NF-Y cistrome, **Mol Metab** 6:703-714, https://doi.org/10.1016/j.molmet.2017.05.001
- Zhang L, Liu Y, Wang M, Wu Z, Li N, **Zhang J**, Yang C, EZH2-, CHD4-, and IDH-linked epigenetic perturbation and its association with survival in glioma patients, **J Mol Cell Biol** 9:477-488, https://doi.org/10.1093/jmcb/mjx056
- Guo C, Li Y, Gow C H, Wong M, Zha J, Yan C, Liu H, Wang Y, Burris T P, **Zhang J**, The optimal corepressor function of nuclear receptor corepressor (NCoR) for peroxisome

- proliferator-activated receptor gamma requires G protein pathway suppressor 2, **Journal of Biological Chemistry** 290:3666-3679, https://doi.org/10.1074/jbc.M114.598797
- Gow C H, Guo C, Wang D, Hu Q, **Zhang J**, Differential involvement of E2A-corepressor interactions in distinct leukemogenic pathways, **Nucleic Acids Res** 42:137-52, https://doi.org/10.1093/nar/gkt855
- Benavides M, Chow-Tsang L F, **Zhang J**, Zhong H, The novel interaction between microspherule protein Msp58 and ubiquitin E3 ligase EDD regulates cell cycle progression, **Biochimica et Biophysica Acta Molecular Cell Research** 1833:21-32, https://doi.org/10.1016/j.bbamcr.2012.10.007
- Chen W Y, **Zhang J**, Geng H, Du Z, Nakadai T, Roeder R G, A TAF4 coactivator function for E proteins that involves enhanced TFIID binding, **Genes and Development** 27:1596-1609, https://doi.org/10.1101/gad.216192.113
- Feng Y, Singleton D, Guo C, Gardner A, Pakala S, Kumar R, Jensen E, **Zhang J**, Khan S, DNA homologous recombination factor SFR1 physically and functionally interacts with estrogen receptor alpha, **PLoS One** 8:e68075, https://doi.org/10.1371/journal.pone.0068075
- Guo C, Gow C H, Li Y, Gardner A, Khan S, **Zhang J**, Regulated clearance of histone deacetylase 3 protects independent formation of nuclear receptor corepressor complexes, **J Biol Chem** 287:12111-20, https://doi.org/10.1074/jbc.M111.327023
- Hu Q, Guo C, Li Y, Aronow B J, **Zhang J**, LMO7 mediates cell-specific activation of the Rho-myocardin-related transcription factor-serum response factor pathway and plays an important role in breast cancer cell migration, **Mol Cell Biol** 31:3223-40, https://doi.org/10.1128/MCB.01365-10
- Wang L, Gural A, Sun X J, Zhao X, Perna F, Huang G, Hatlen M A, Vu L, Liu F, Xu H, Asai T, Xu H, Deblasio T, Menendez S, Voza F, Jiang Y, Cole P A, **Zhang J**, Melnick A, Roeder R G, Nimer S D, The leukemogenicity of AMLI-ETO is dependent on site-specific lysine acetylation, **Science** 333:765-769, https://doi.org/10.1126/science.1201662
- Olshavsky N A, Comstock C E S, Schiewer M J, Augello M A, Hyslop T, Sette C, **Zhang J**, Parysek L M, Knudsen K E, Identification of ASF/SF2 as a critical, allele-specific effector of the cyclin D1b oncogene, **Cancer Research** 70:3975-3984, https://doi.org/10.1158/0008-5472.CAN-09-3468
- Guo C, Hu Q, Yan C, **Zhang J**, Multivalent binding of the ETO corepressor to E proteins facilitates dual repression controls targeting chromatin and the basal transcription machinery, **Mol Cell Biol** 29:2644-57, https://doi.org/10.1128/MCB.00073-09
- Lee K, Liu Y, Mo J Q, **Zhang J**, Dong Z, Lu S, Vav3 oncogene activates estrogen receptor and its overexpression may be involved in human breast cancer, **BMC Cancer** 8:158, https://doi.org/10.1186/1471-2407-8-158
- Plevin M J, **Zhang J**, Guo C, Roeder R G, Ikura M, The acute myeloid leukemia fusion protein AMLI-ETO targets E proteins via a paired amphipathic helix-like TBP-associated factor homology domain, **Proc Natl Acad Sci U S A** 103:10242-10247, https://doi.org/10.1073/pnas.0603463103
- **Zhang J**, Kalkum M, Yamamura S, Chait B T, Roeder R G, E protein silencing by the leukemogenic AMLI-ETO fusion protein, **Science** 305:1286-9, https://doi.org/10.1126/science.1097937

- Hug B A, Lee S Y, Kinsler E L, **Zhang J**, Lazar M A, Cooperative function of Amli-ETO corepressor recruitment domains in the expansion of primary bone marrow cells, **Cancer Res** 62:2906-12, https://www.ncbi.nlm.nih.gov/pubmed/12019171
- Zhang J, Kalkum M, Chait B T, Roeder R G, The N-CoR-HDAC3 nuclear receptor corepressor complex inhibits the JNK pathway through the integral subunit GPS2, **Molecular Cell** 9:611-623, https://doi.org/10.1016/S1097-2765(02)00468-9
- Zhang J, Hug B A, Huang E Y, Chen C W, Gelmetti V, Maccarana M, Minucci S, Pelicci P G, Lazar M A, Oligomerization of ETO is obligatory for corepressor interaction, Molecular and Cellular Biology 21:156-163, https://doi.org/10.1128/MCB.21.1.156-163.2001
- Huang E Y, **Zhang J**, Miska E A, Guenther M G, Kouzarides T, Lazar M A, Nuclear receptor corepressors partner with class II histone deacetylases in a Sin3-independent repression pathway, **Genes Dev** 14:45-54, https://www.ncbi.nlm.nih.gov/pubmed/10640275
- **Zhang J**, Hu X, Lazar M A, A novel role for helix 12 of retinoid X receptor in regulating repression, **Mol Cell Biol** 19:6448-57, https://doi.org/10.1128/MCB.19.9.6448
- Gelmetti V, **Zhang J**, Fanelli M, Minucci S, Pelicci P G, Lazar M A, Aberrant recruitment of the nuclear receptor corepressor-histone deacetylase complex by the acute myeloid leukemia fusion partner ETO, **Mol Cell Biol** 18:7185-91, https://doi.org/10.1128/MCB.18.12.7185
- **Zhang J**, Guenther M G, Carthew R W, Lazar M A, Proteasomal regulation of nuclear receptor corepressor-mediated repression, **Genes Dev** 12:1775-80, https://doi.org/10.1101/gad.12.12.1775
- Zamir I, **Zhang J**, Lazar M A, Stoichiometric and steric principles governing repression by nuclear hormone receptors, **Genes Dev** II:835-46, https://doi.org/10.1101/gad.II.7.835
- **Zhang J**, Zamir I, Lazar M A, Differential recognition of liganded and unliganded thyroid hormone receptor by retinoid X receptor regulates transcriptional repression, **Mol Cell Biol** 17:6887-97, https://doi.org/10.1128/MCB.17.12.6887
- Reginato M J, **Zhang J**, Lazar M A, DNA-independent and DNA-dependent mechanisms regulate the differential heterodimerization of the isoforms of the thyroid hormone receptor with retinoid X receptor, **J Biol Chem** 271:28199-205, https://doi.org/10.1074/jbc.271.45.28199
- **Zhang J**, Yeh M, Cloning, sequencing and analyzing of the heavy chain V region genes of human polyreactive antibodies, **Cell Research** 4:31-46, https://doi.org/10.1038/cr.1994.4
- **Zhang J**, Yeh M, Characterizing genes encoding the variable regions of heavy chains of human polyreactive antibodies (in Chinese), **Progress in Biochemistry and Biophysics** 20:40-41, http://www.pibb.ac.cn/pibbcn/article/abstract/19930111
- **Zhang J**, Liu W Y, Identification of the catalytic site of Trichosanthin on eukaryotic ribosomal 28S RNA (in Chinese), **Progress in Biochemistry and Biophysics** 19:131-131, https://www.pibb.ac.cn/pibbcn/article/abstract/19920213
- **Zhang J** S, Liu W Y, The mechanism of action of trichosanthin on eukaryotic ribosomes–RNA N-glycosidase activity of the cytotoxin, **Nucleic Acids Res** 20:1271-5, https://doi.org/10.1093/nar/20.6.1271

## **Editorial and Review Articles**

**Zhang J**, Gow C H, Khan S, Liu Y, Yang C, Transcriptional and Genomic Control of Stem Cells in Development and Cancer, **Stem Cells Int** 2017:2513598,

- https://doi.org/10.1155/2017/2513598
- Steinauer N, Guo C, **Zhang J**, Emerging Roles of MTG16 in Cell-Fate Control of Hematopoietic Stem Cells and Cancer, **Stem Cells Int** 2017:6301385, https://doi.org/10.1155/2017/6301385
- Li J, Guo C, Steinauer N, **Zhang J**, New insights into transcriptional and leukemogenic mechanisms of AMLI-ETO and E2A fusion proteins, **Frontiers in Biology** 11:285-304, https://doi.org/10.1007/s11515-016-1415-1
- Wong M M, Guo C, **Zhang J**, Nuclear receptor corepressor complexes in cancer: mechanism, function and regulation, **Am J Clin Exp Urol** 2:169-87, https://www.ncbi.nlm.nih.gov/pubmed/25374920
- **Zhang J**, Lazar M A, The mechanism of action of thyroid hormones, **Annu Rev Physiol** 62:439-66, https://doi.org/10.1146/annurev.physiol.62.1.439
- **Zhang J**, Liu W Y, Progress in topography of ribosomal RNA and RNA N-glycosidase research (I), **Progress in Biochemistry and Biophysics** 21:23-7, https://www.pibb.ac.cn/pibbcn/article/abstract/19940107
- **Zhang J**, Liu W Y, Progress in topography of ribosomal RNA and RNA N-glycosidase research (II), **Progress in Biochemistry and Biophysics** 21:113-117, https://www.pibb.ac.cn/pibbcn/article/abstract/19940107

#### **Conference Abstracts**

#### **Oral Presentation**

- Steinauer N, Guo C and **Zhang J**. Deciphering gene regulatory networks via logistic regression of cistromic and transcriptomic features in disease models. AlCoB 2020/2021, 7th International Conference on Algorithms for Computational Biology, Missoula, Montana, USA (Selected for oral presentation)
- Steinauer N, Wong M, Guo C, Freter CE, and **Zhang J**. A novel CD34/ETO2/IFNGR gene regulatory axis Is implicated in poor-prognosis cases of t(8;21) AML. September 16-17, 2016. 2016 ASH Meeting on Hematologic Malignancies. Chicago. IL Oral Presentation.
- Duan X, Guo C, Gardner A, Khan S and **Zhang J**. A novel histone deacetylase complex plays both coactivator and corepressor roles in AIB1 transcription, 5th Biennial Great Lakes Nuclear Receptor Conference. Date: October 12-13, 2012, Northwestern University, Chicago, IL. Oral Presentation.
- Guo C, Vasiliauskas J and **Zhang J**. GPS2 facilitates functional nuclear receptor corepressor-PPAR gamma interaction in vivo. Cincinnati Cancer Symposium: 2009 Jensen Symposium on Nuclear Receptors. Date: Oct 14-15, 2009. Cincinnati, OH. Oral presentation.
- Yan C, Hu Q, Guo C, Kalkum M and **Zhang J**. Novel histone deacetylase complexes that contain nuclear receptor coactivators involved in estrogen receptor function. Midwest Regional Molecular Endocrinology Conference. Date: May 18, 2007. Indianapolis, IN. Oral presentation.
- **Zhang J** and Guo C. Novel mechanisms of transcriptional corepressor functions in normal and disease-associated pathways. Midwest Regional Molecular Endocrinology Conference. Date: May 18, 2007. Indianapolis, IN. Oral presentation.

# Poster presentation

- Morgan J, Guo C, Huang C, Steinauer N., Scannell A, Goyal S and **Zhang J**. TBLRI Maintains Retinoic Acid Resistance in Non-APL Acute Myeloid Leukemia by Inhibiting RARa Recruitment2022 Cancer Research Symposium, December 9, 2022, Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine at St. Louis, St. Louis, MO.
- Schafer R, Giancotti L, Chen Z, Doyle T, Harada C, **Zhang J**, Salvemini D. A Role of NOD2 in CARTp-mediated Mechano-hypersensitivity. EXPERIMENTAL BIOLOGY 2022. Philadelphia, Pennsylvania, USA. April 2-5, 2022
- Braden K, Campolo M, Chen Z, Giancotti, LA, Li Y, Doyle TM, Esposito E, **Zhang J**, Salvemini D. Investigating the Molecular Mechanisms Driving 7alpha,25-dihydroxycholesterol-GPR183-Induced Hypersensitivity. EXPERIMENTAL BIOLOGY 2022. Philadelphia, Pennsylvania, USA. April 2-5, 2022
- Steinauer N, Guo C, Wong M, Freter CE, and **Zhang J**. Differential regulation of ETO2 gene expression determines patient-specific outcome in acute myeloid leukemia. Advancing Precision Medicine through Translational Genomics. 1st Annual ICTS Symposium. January 16, 2018. Washington University in St. Louis. St Louis, MO.
- Steinauer N, Guo C, Wong M, Freter CE, and **Zhang J**. ETO2 Regulates Cell-Fate Genes and Controls Relapse in Acute Myeloid Leukemia. 59th ASH Annual Meeting, Atlanta, GA, USA, 2017. December 9-12, 2017. Poster Presentation.
- Steinauer N, Guo C, Wong M, Freter CE, and **Zhang J**. A novel CD34/ETO2/IFNGR gene regulatory axis is implicated in poor prognosis cases of t(8;21) AML. ASH Annual Meeting, San Diego, CA, USA, 2016. December 3-6, 2016. Poster Presentation.
- Guo C, Madeline M. Wong M, Chien-Hung Gow C-H, Zha J and **Zhang J**. RNA polymerase II is a direct and functional target of the AMLI-ETO leukemia fusion protein. EVOLUTION AND CORE PROCESSES IN GENE REGULATION. June 25-28, 2015, Washington University, St. Louis, MO. Poster Presentation.
- Guo C, Wong M, Steinauer N, Chien-Hung Gow C-H and **Zhang J**. A leukemogenic strategy to enforce promoter-proximal pausing and enhancer elongation of RNA polymerase II in a gene-specific manner. MECHANISMS OF EUKARYOTIC TRANSCRIPTION. August 25–August 29, 2015. Cold Spring Harbor Laboratories, Cold Spring Harbor, NY. Poster Presentation.
- Steinauer N, Wong M, Guo C, Freter CE, and **Zhang J**. The stem cell marker gene CD34 is transcriptionally activated by t(8;21) leukemia fusion proteins. The 2015 Midwest Regional Meeting of the American Physician Scientists Association (APSA). October 24, 2015. St. Louis, MO. Poster Presentation.
- Pouncil G, Guo C, Wong, MM and **Zhang J**. The transcriptional activity of AMLI-ETO requires its interactions with E-proteins. 2014 Undergraduate Research/Graduate School (URGS) Retreat. Date: September 26-27, 2014, University of Tennessee, Knoxville, TN. Poster Presentation.
- Gow C-H, Guo C and **Zhang J**. Inter-domain crosstalk modulates E2A sensitivity to ETO-mediated repression. NIDDK workshop on Regulatory Determinants of Hematopoietic Stem Cell Differentiation and Terminal Development: New Insights. Date: February 20, 2012. Washington DC. Poster Presentation.

- Gow C-H, Guo C and **Zhang J**. Inter-domain crosstalk modulates E2A sensitivity to ETO-mediated repression. The 10th Midwest Blood Club Symposium. Date: March 15-16, 2012, Indianapolis, IN. Poster Presentation.
- Gow C-H, Guo C, Duan X and **Zhang J**. E-proteins are essential cooperative factors for transcriptional repression mediated by the AMLI-ETO leukemia fusion protein.

  Transcriptional regulation: Chromatin and RNA Polymerase II. Date: October 4-8, 2012, Snowbird, UT. Poster Presentation.
- Guo C, Hu Q, Yan C and **Zhang J**. ETO domain crosstalk specifies two pathways in the repression of E protein-mediated transcription. Cold Spring Harbor Laboratory Meeting on Mechanisms of Eukaryotic Transcription. Date: Aug 29-Sep 2, 2007. Cold Spring Harbor, NY. Poster presentation.
- Guo C, **Zhang J**. Novel mechanisms of post-transcriptional regulation of HDAC3. Midwest Regional Molecular Endocrinology Conference. Date: May 18, 2007. Indianapolis, IN. Oral presentation.
- Gural A, Jankovic V, **Zhang J**, Roeder RG, Nimer SD. The deletion of NHR1 region of the AML1-ETO protein significantly decreases its ability to promote proliferation and self-renewal of early hematopoietic cells in culture. 48th Annual Meeting of the American-Society-of-Hematology. Date: Dec 09-12, 2006. Orlando, FL. Poster Presentation.
- **Zhang J**, Kalkum M, Yamamura S, Chait BT and Roeder RG. E protein silencing by the leukemogenic AMLI-ETO fusion protein. The Leukemia and Lymphoma Society Stohlman Scholar Symposium. Date: Nov 2004. St. Louis, MO. Poster presentation.
- **Zhang J**, Kalkum M, Chait BT and Roeder RG. The N-CoR-HDAC3 nuclear receptor corepressor complex inhibits the JNK pathway through a novel integral subunit GPS2. Keystone Symposia on Nuclear Receptor Superfamily. Date: Apr 13-19, 2002. Poster presentation.
- **Zhang J**, Gelmetti V, Fanelli M, Minucci S, Pelicci PG and Lazar MA. Aberrant recruitment of the nuclear receptor corepressor-histone deacetylase complex by the acute myeloid leukemia fusion partner ETO. NIH Workshop: Co-Activators and Co-Repressors in Gene Expression. Date: Dec 15-16, 1998. Bethesda, MD. Poster presentation.

#### PUBLISHED HIGH-THROUGHPUT DATASETS

GSE143895, GPR160 de-orphanization reveals critical roles in neuropathic pain in rodents
PXD017230, human HDAC3 and interesting proteins
GSE131939, Paired ChIP-Seq studies of Kasumi-1 t(8;21) AML cells
GSE126953, ChIP-Seq of CBFA2T3 (ETO2) in CD34+ HSPC and AML cells
GSE72427, Binding site-dependent effects of AML1-ETO leukemia fusion protein on RNA Pol II pausing and enhancer activation

# **INVITED TALKS**

Department of Biology, Saint Louis University, October 2020 Department of Hematology, Nanjing University School of Medicine, June 2017 SLU Cancer Center Grand Rounds, October 2015

Department of Biochemistry and Molecular Biology, Saint Louis University School of Medicine, October 2, 2014

City of Hope Beckman Research Institute, Department of Immunology, August 29, 2014

Department of Pharmacology and Physiology, Saint Louis University School of Medicine. July 31, 2013

MD Anderson Cancer Center, Houston, June 22, 2012

The Scripps Research Institute, Florida, March 7, 2012

Center for Nuclear Receptors and Cell Signaling, University of Houston, February 27, 2012

Department of Molecular Genetics Seminar Series, Biochemistry & Microbiology Seminar, University of Cincinnati, May 12, 2009

Department of Cancer and Cell Biology Seminar Series, University of Cincinnati, February 26, 2009

Department of Surgery Seminar Series, University of Cincinnati, December 7, 2007

Hormonal Carcinogenesis Research Program Seminar, University of Cincinnati, October 1, 2007

Research Seminar for Upcoming Graduate Students, Cancer and Cell Biology, University of Cincinnati, October 6, 2006, February 17, 2007, July 9, 2007, July 8, 2008

The Cancer Center Pilot Grant Symposium, University of Cincinnati, June 15, 2006

Department of Pharmacology, University of Virginia, March 29, 2005

Department of Molecular Pathology, the University of Texas MD Anderson Cancer Center, April 5, 2005

Department of Cell Biology, Neurobiology & Anatomy, University of Cincinnati, March 24, 2005

Department of Biochemistry and Molecular Biology, University of Florida College of Medicine, March 14, 2005

Department of Molecular Medicine, Cornell University, March 7, 2005

The Institute of Cancer Research, London, UK, February 23, 2005

University of Toronto, December 15, 2004

The Rockefeller University Tri-Lab Seminar, October 2002

Wistar Institute Transcription Research Seminar, University of Pennsylvania, February 1999

#### **AWARDS AND HONORS**

2022	Graduate Teaching Award Finalist, Saint Louis University
202I	Distinguished Reviewer of Translational Cancer Research
2020	Editor's Pick, Journal of Biological Chemistry
2017	Abstract Achievement Award, 59th ASH Annual Meeting
2016	Abstract Achievement Award, 2016 ASH Meeting on Hematologic Malignancies
2005	Co-recipient of the National Natural Science Award in China 国家自然科学奖目录二等奖( <i>Z-105-2-04</i> ) Structure and functional study of ribosome-inactivating proteins

	(Awardee: Liu WY, Zhang J, Liu RS, He WJ, Ling J)
2003	Special Fellow, Leukemia and Lymphoma Society
2000	Fellow, Leukemia and Lymphoma Society
1984-88	Best Academic Achievement Award, Nanjing University
1984	Winner of Computer competition, Nanjing University
1982-83	National Mathematics Competition Winner

# **GRANTS, CONTRACTS AND FELLOWSHIPS**

	Awarded funding	Pending
Total	\$5,836,524 (PI: \$3,416,985)	\$2,672,741
Extramural	\$5,214,024 (PI: \$2,794,485)	\$2,672,741

#### **Active**

- The Henry and Amelia Nasrallah Center for Neuroscience Research Seed Grant (\$16,000) Exploring the role of G-protein pathway suppressor 2 in fetal brain development and neoplastic signals using innovative single-cell transcriptomics and knockout animal models. PI
- 2022–23 SLU Grant Incubator Program. Function and targeting of a novel pro-leukemic transcriptional coregulator axis in acute myeloid leukemia (\$10000). PI.
- 2021– Technology Licensing (MilliporeSigma).
- dbGaP (Database of Genotypes and Phenotypes) Dataset Project # 9703 (NCI/dbGaP) Exploring novel therapeutic targets in pediatric leukemias. PI.
- dbGaP Dataset Project #9140 (NCI/NHGRI). Characterization of leukemia fusion proteins. Sub-Project 1: Bioinformatics analysis of gene expression in adult primary AML patient samples in The Cancer Genome Atlas (TCGA) consortium. Sub-Project 2: Analyses of gene expression changes between primary and relapsed AML patient samples using the patient-matched dataset (GSE83533, phs001027.v1.p1). PI.
- 2014 Saint Louis University Start-Up (\$500,000). PI.

## **Pending**

- 2023–28 NIH 1R01CA280854-01 (\$2,104,615.00) (Ao Under review). Develop novel combinatorial approaches to overcome retinoic acid resistance in acute myeloid leukemia. PI.
- 2023–25 NIH/NCI 1R03CA253322-01A1 (\$151,500.00) (A1 36, pending resubmission). Role of a novel transcriptional coactivator/corepressor axis in clonal expansion of recurrent AML cells. PI.
- NIH/NCI 1R21CA274424-01 (\$416,626.00) (Ao 41% pending revision). The interplay between GCN5 and HDAC3 in transcription and AML progression. PI.

# Completed

- 2019–21 WUSTL/Siteman Cancer Center Investment Program Award (\$120,000). Lysine acetylation of human histone deacetylase 3 as a new cancer target. PI
- 2016–18 1R01AR069280-01A1 (NIH/ NIAMS) (\$1,161,332) (Burris PI) ERRgamma Agonists to Treat Muscular Dystrophy. Co-I.

- 2016–18 IR01 MH092769-06A1(NIH/NIMH (\$1,258,207) (Burris PI) Development of RORalpha and RORgamma Ligands for Treatment of Behavioral Disorders. Co-I
- 2016–20 T32GM008306-26A1 (NIH/NIGMS) (Burris PI) PHARMACOLOGICAL SCIENCES TRAINING GRANT. Faculty Mentor.
- 2019–20 SLU Presidents' Research Fund (\$25,000) Lysine acetylation of histone deacetylase 3 as a new target for cancer therapy. PI.
- 2014–17 R21CA178513 (NIH/NCI) (\$362,464) Human HDAC3: mechanism of activation and proteasomal degradation. PI.
- 2009–16 Roi HL093195 (NIH/NHLBI)(\$1,935,998) Aberrant hematopoiesis: E proteins and AMLi-ETO in leukemogenesis. PI.
- 2015–16 BIO150049/MCB150022P (Pittsburgh Supercomputing Center/XSEDE/NSF) (4000 SUs/year at Pittsburgh Supercomputing Center). Genome-wide analysis of leukemia fusion proteins. PI.
- 2015–16 SLU Presidents' Research Fund (\$25,000) Role of Breast Cancer Anti-Estrogen Resistance Protein BCAR2 in Regulation of AIB1 Transcription and Estrogen Receptor alpha Signaling. PL.
- 2013–14 University of Cincinnati Center for Clinical and Translational Science and Training Pilot Grant (\$7,500) ChIP-Seq analysis of AMLI-ETO leukemia fusion protein, E-proteins, and RNA Polymerase II in leukemia cells. PI.
- 2013–14 Marlene Harris-Ride Cincinnati Breast Cancer Pilot Grant Program(\$40,000). Regulation and function of LMO7 in metastatic breast cancer. PI.
- 2009–12 NIH/NCI T32 Training Grant CA059268 (Khan, PI). Regulation of Cellular Growth and Differentiation. Faculty Mentor
- 2008–10 Ohio Cancer Research Associates Pilot Grant (\$50,000) Role of E protein inactivation in leukemogenesis by AML1-ETO. PI.
- 2008–09 University of Cincinnati Research Council Faculty Research Support Grant (\$6,500) Human histone deacetylase 3: compartment-specific functions and proteasomal degradation. PI
- 2008–09 American Cancer Society Institutional Research Grant IRG-92-026-12 (Stambrook, PI) (\$20,000) Involvement of an architectural transcription factor p37 in estrogen receptor alpha function and tamoxifen resistance. PI.
- 2006–07 University of Cincinnati Cancer Center Pilot Grant (\$40,000) GPS2 functions in cytokine signaling and tamoxifen resistance. PI.
- 2004–05 NIH 5P41RR000862-31 NATIONAL CENTER FOR RESEARCH RESOURCES. Sub-Project ID: 0129 (\$3,523). COMPREHENSIVE ANALYSIS OF HUMAN HISTONE DEACETYLASE. PI.
- 2003–06 Leukemia and Lymphoma Society Special Fellowship Award (\$150,000). PI.
- 2000-03 Leukemia and Lymphoma Society Postdoctoral Fellowship Award (\$105,000). PI.

# **COURSES TAUGHT**

# **University of Cincinnati**

Cell Biology (26GNTD873001): Nucleus structure & function

Biology of Cancer (26CB880001): Hormonal Carcinogenesis

Biology of Cancer (26CB880001): Cancer Epigenetics

Data Critique and Presentation level-I (26CB923001)

Data Critique and Presentation level-II (26CB926001)

Data Critique and Presentation level-III (26CB924001)

# Saint Louis University

Special Topics in Basic Biomedical Sciences (BBSG-502)

Basic Biomedical Sciences II (BBSG-503): Nuclear Receptors: Structure, function &mechanism

Basic Biomedical Sciences II (BBSG-503): Leukemogenesis, Cancer Epigenetics

Basic Biomedical Sciences II (BBSG-503): A practical training in bioinformatics

Advanced Topics in Pharmacological and Physiological Science II (PPYG-513)

Grant Writing Course (PPY514)

Cellular and Molecular Biology (CMB-100)

Special Topics in Basic Biomedical Sciences II (BBSG-504)

Journal Club (PPY6900-0) (Course Director)

#### **SERVICE**

## **Journal Editor**

PLOS ONE, Academic Editor, 2014-

Proteomes, Special Issue Editor 2022-: Proteomics in Cancer and Personalized Medicine

Stem Cells International, Special Issue Editor 2016–2017: Transcriptional and Genomic Control of Stem Cells in Development and Cancer

## **Journal Peer Review**

Nature Communications

Science Advances

Molecular Cell

Nucleic Acids Research

PLOS ONE

Journal of Leukocyte Biology

Haematologica

Cell & Bioscience

Cancer Research

Molecular Cancer Research

Cancer Biotherapy & Radiopharmaceuticals

Oncotarget

Cell Biology and Toxicology

Molecules

Peptides

Translational Cancer Research

Molecular Biology Reports

Stem cells International

# **Funding Agency Peer Review**

#### Extramural

2022 Swiss Cancer Research foundation & Swiss Cancer League, Switzerland

2016-22 National Cancer Institute (Provocative Questions, Ro3, R21, Ro1, SPORE):

ZCAI RPRB-6(MI), ZCAI RPRB-6(M2), ZCAI RPRB-6(OI), ZCAI RPRB-7(MI), ZCAI RPRB-N (MI) S, ZCAI SRB-K JI, ZCAI SRB-K J2, ZCAI SRB-K O2, ZCAI SRB-K(J1),

ZCA<sub>1</sub> SRB-K(J<sub>2</sub>), ZCA<sub>1</sub> SRB-K(M<sub>1</sub>), ZCA<sub>1</sub> SRB-K(O<sub>1</sub>)

2016 Leukemia and Lymphoma Research Foundation, UK

2015 Bloodwise Foundation, UK

# Intramural

2022 Saint Louis University Grant Incubator Program

2020 Saint Louis University President's Research Fund

2012 University of Cincinnati Center for Environmental Genetics

# **Service to the Research Community**

Galaxy@SLU website, http://pharmacology.slu.edu/, 2019–

Web application: Exploring leukemia prognosis using Shiny, 2018–

# Service to the University

Saint Louis University School of Medicine Research IT Working Group, 2022–

Saint Louis University School of Medicine "Find Our Faculty" Ad hoc committee, 2020–2021

Saint Louis University School of Medicine Department of Pharmacology and Physiology Web-Site Committee, 2015-2022

Saint Louis University School of Medicine Department of Pharmacology and Physiology Journal Club Committee (Chair), 2019–

Saint Louis University Radiation Safety Committee (RSC), 2017–

Saint Louis University School of Medicine MD/PhD Admission Committee, 2016–

Saint Louis University School of Medicine MD/PhD Steering Committee, 2016–

Saint Louis University Biomedical Sciences Graduate Program PhD Qualifying Exam Standing Committee, 2014–

Saint Louis University Biomedical Sciences Graduate Program Steering Committee, 2014–
Joint Provost-Faculty Senate Committee on Mid-Career Faculty Development, 2017–2019
Saint Louis University School of Medicine By-laws and Constitutional Committee, 2017
Saint Louis University School of Medicine Workload Policy Committee, 2016
Saint Louis University School of Medicine Faculty Assembly Committee, 2015–2019
University of Cincinnati Cancer and Cell Biology PhD Program Steering Committee, 2007–2008
University of Cincinnati Cancer and Cell Biology Graduate Program Qualifying Exam Standing Committee, 2007–2008

National Research Council Survey of Doctoral Graduate Program Faculty Coordinator, 2007 University of Cincinnati Cancer and Cell Biology PhD Admission Committee, 2006–2008 University of Cincinnati Graduate Student Research Judge, 2006–2007 Judge Committee, 2015 American Physician Scientist Association Midwest Regional Meeting Discussant, 2018 Annual AOA Medical Student Research Forum

# **Doctoral Qualifying Exam Committees**

Nicholas Olshavsky, University of Cincinnati

Sucharitha Balasubramaniam, University of Cincinnati

Trudy Aebig, University of Cincinnati

Jason Puglise, University of Cincinnati

Supriya Shah, University of Cincinnati

David Tompkins, University of Cincinnati

Purnima Wagh (Chair), University of Cincinnati

Ryan Welch (Chair), Saint Louis University

Monideepa Sengupta (Chair), Saint Louis University

Deborah Roby, Saint Louis University

Katie J. Carpenter, Saint Louis University

Meghan H. Murray (MD/PhD Candidate), Saint Louis University

Nick P. Steinauer (MD/PhD candidate), Saint Louis University

Shabnam J. Majidi, Saint Louis University

Suomia A. Abuirqeba (Chair), Saint Louis University

Emmalie Schoepke, Saint Louis University

## **Doctoral Dissertation Committees**

Chien-Hung Gow, University of Cincinnati

Nicholas Olshavsky, University of Cincinnati

Kevin Link, University of Cincinnati

Ryan Welch, Saint Louis University

Monideepa Sengupta, Saint Louis University

Deborah Roby, Saint Louis University

Suomia A. Abuirqeba, Saint Louis University

Emmalie Schoepke, Saint Louis University

Meghan H. Murray (MD/PhD Candidate) Saint Louis University

Nick Steinauer (MD/PhD Candidate) Saint Louis University

Monica Goodland (MD/PhD Candidate) Saint Louis University

#### **Doctoral Dissertation Advisor**

Chien-Hung Gow, PhD (2010-2014), University of Cincinnati. Current Position: Assistant professor, Department of Healthcare Information and Management, Ming-Chuan University, Taiwan.

Nicholas Olshavsky, PhD (2008-2010), University of Cincinnati. Current position: Director, Clinical Trial Management at Medpace. Co-Mentor.

Nick Steinauer, MD/PhD (2016-2020), Saint Louis University. Current position: Resident at Hematology-Oncology at Mayo Clinic Rochester.

## **Post-doctor Supervisor**

Chunxia Yan, MD/PhD (2006-2007), University of Cincinnati.

Qiande Hu, PhD (2007-2009), University of Cincinnati.

Yali Li, MD/PhD (2010-2011), University of Cincinnati.

Xin Duan, PhD (2012-2013), University of Cincinnati.

Madeline Wong, PhD (2014-2015), Saint Louis University.

Jikun Zha, PhD (2014-2015), Saint Louis University.

Jian Li, PhD (2015-2016), Saint Louis University.

# **Doctoral Student Rotation Supervisor**

Jaclyn Whalen (2021), Saint Louis University

Alexandria Dickson (2019), Saint Louis University

Allyson Cochran (2016), Saint Louis University

Nickolas Steinauer (2015-2016), Saint Louis University School of Medicine

Chien-Hung Gow (2010), University of Cincinnati

Tomilowo Abijo (2010), University of Cincinnati

Juozas Vasiliauskas (2008), University of Cincinnati

#### **MD Student Research Supervisor**

Brent Wu (2019 Summer), Saint Louis University

Jennifer Morgan (2020 Summer), Saint Louis University

Christopher Hood (2020 Fall–2021 Spring), Saint Louis University

# High School, College Student Research Advising

David Wang, Mason High School (2011-2014), Research Projects for Intel International Science and Engineering Fair Competition.

- -1St Alternate Award, 2012 OHIO JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM
- -1St Alternate Award, 2013 OHIO JUNIOR SCIENCE AND HUMANITIES SYMPOSIUMACS Chemical Sciences Award (2013)
- -2nd place award, 2014 OHIO JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM
- -Semi-finalist recognition, 2014, Siemens Competition in Math, Science & Technology

Gabrielle Pouncil (Summer 2014, Fall 2014), Harris-Stowe State University

Sibani Mangal (Fall 2014, Spring 2015), Department of Biology, Saint Louis University College of Arts and Sciences

David Pan (Summer 2015), Saint Louis University

Sumrah Khan (Summer 2017), Doisy Summer Scholar Program, Saint Louis University

#### **MEMBERSHIPS**

American Society of Hematology

American Association for the Advancement of Science

American Society for Biochemistry and Molecular Biology

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