JUN WAN, PH.D.

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EDUCATION & TRAINING

Postdoctoral Fellow Bioinformatics, Wilmer Institute, Johns Hopkins University School of Medicine, Baltimore, MD USA Apr 2011

Postdoctoral Fellow Optical imaging, Department of Electrical and Computer Engineering, University of Victoria, Victoria, BC Canada Jul 2007

Ph.D. Computational Physics, Department of Physics, Queen's University, Kingston, ON Canada Jun 2006

M.S. Condensed Matter Physics, Department of Physics, Fudan University, Shanghai, China Jan 2001

B.S. Applied Physics, Department of Applied Physics, Shanghai Jiaotong University, Shanghai, China Jul 1991

APPOINTMENTS

Department of Medical and Molecular Genetics, Indiana University School of Medicine, Indianapolis, IN USA

- Associate Professor in Bioinformatics (tenured starting on 7/1/23) Jul 2022 – present
- Tenure-track Assistant Professor in Bioinformatics Dec 2016 – Jun 2022

Indiana University Simon Comprehensive Cancer Center, Indianapolis, IN USA

- Director of Cancer Bioinformatics Core Jul 2019 – present
- Director of Collaborative Core for Cancer Bioinformatics (C^3B) shared by two NCI-designated cancer centers, Indiana University Simon Comprehensive Cancer Center (IUSCCC) and Purdue University Center for Cancer Research (PUCCR) Dec 2016 – present

Center for Computational Biology and Bioinformatics (CCBB), Indiana University School of Medicine, Indianapolis, IN USA

- Core member Dec 2016 – present

Department of BioHealth Informatics, Indiana University School of Informatics and Computing, Indiana University – Purdue University at Indianapolis, IN USA

- Adjunct Associate Professor in Bioinformatics Jul 2022 – present
- Adjunct Assistant Professor in Bioinformatics Jul 2017 – Jun 2022

Wilmer Institute, Johns Hopkins University School of Medicine, Baltimore MD USA

- Research Associate (Faculty) Apr 2015 – Dec 2016
- Senior Bioinformatician Apr 2011 – Apr 2015

Department of Physics and Materials Science, City University of Hong Kong, Hong Kong China

- Research Assistant I (full time) Jul 1999 – Jun 2000

HONORS AND AWARDS

Ontario Graduate Scholarship, ON Canada 2004-2005

Carl Reinhardt Fellowship, Queen's University, Kingston, ON Canada 2003-2005

Queen Elizabeth II Graduate Scholarship in Science and Technology, ON Canada 2002-2003

Carl Reinhardt Fellowship, Queen's University, Kingston, ON Canada 2001-2002

PROFESSIONAL SERVICES

Editorial board (IF 2022)

- Editorial Board Member, *Briefings in Bioinformatics* (IF: 13.99) 2017 – present
- Associate Editor for Evolutionary and Genomic Microbiology, specialty section of *Frontiers in Microbiology (IF: 6.06)*, *Frontiers in Genetics (IF: 4.77)*, and *Frontiers in Ecology and Evolution (IF: 13.78)* 2022 – present
- Editorial Board Member, *International Journal of Computational Biology and Drug Design* 2012 – present
- Topics Board Member, *Life* (IF: 3.81) 2019 – present
- Guest Editor, Special Issues "*Computational Systems Biology*" of Scientific World Journal 2013

Journal *ad hoc* review

- *Lancet* (IF: 202.73)*, Cell Research* (IF: 46.29), *Journal of Hematology & Oncology* (IF: 23.17)*, Journal of Medical Virology* (IF: 20.69), *Nucleic Acids Research* (IF: 19.16), *Genome Biology* (IF: 17.91), *Briefings in Bioinformatics* (IF: 13.99), *Environment International* (IF: 13.35), *Clinical and translational medicine* (IF: 8.55), *Cells* (IF: 7.67), *BMC Biology* (IF: 7.36), *Genes & Diseases* (IF: 7.24), *Bioinformatics* (IF: 6.93), *Genomics Proteomics & Bioinformatics* (IF: 6.41), *Frontiers in Cell and Developmental Biology* (IF: 6.08), *Epigenetics* (IF: 4.86), *PLoS Computational Biology* (IF: 4.78), *BMC Genomics* (IF: 4.55), *Genes* (IF: 4.14), *Frontiers in Neurology* (IF: 4.09), *PLoS One* (IF: 3.75), *Translational Vision Science & Technology* (IF: 3.05), *Oncotarget, Journal of Biomedicine and Biotechnology, Journal of Integrative Bioinformatics*

Grant review

- DFG (German Research Foundation) on "COVID-19 Focus Funding: SARS-CoV-2 Sequencing Projects" 2021
- Study Section: Ohio State University Center for Clinical and Translational Science (CCTS) Pilot Grants 2020
- Study Section: Research Support Funds Grant (RSFG) from IUPUI Office of the Vice Chancellor for Research 2017
- Study Section: Indiana University Simon Cancer Center Pilot Grants 2017
- Study Section: Indiana Clinical and Translational Sciences Institute (CTSI) Pilot Grants 2017

Other professional services

- Co-Chair, Tutorial Session of the 12th Association of Computing Machinery (ACM) Conference on Bioinformatics, Computational Biology, and Health Informatics 2021
- Chair, Session "AI in Omics", and Moderator of Panel Discussion on "Traditionalist vs AI approaches", 2021 Conference of "Bringing Artificial Intelligence to the Bedside", West Lafayette, Indiana USA 2021
- Chair, Organizing Committee for IUSM CCBB Annual Retreat 2020 & 2021
- Chair, Seminar Committee at the Center for Computational Biology and Bioinformatics (CCBB), Indiana University School of Medicine 2019 – present
- Chair, Session "Cancer Genomics" in 2018 International Conference on Intelligent Biology and Medicine, Los Angeles CA USA 2018
- Co-chair, Organizing Committee for Walther Cancer Foundation Annual Symposium at Notre Dame University 2018
- Co-chair, Session of Bioinformatics, Walther Cancer Foundation Annual Symposium 2018
- Program Committee Member, International Conference on Intelligent Biology and Medicine 2012 – present
- Program Committee Member, Workshop on Integrative Data Analysis in Systems Biology in the IEEE International Conference on Bioinformatics and Biomedicine 2010 – present
- Organizer, Wilmer Eye Institute Research Discussion 2008 – 2009

FUNDED GRANTS

Active grants

- NIH/NCI R01 CA248033 Lu (PI) Role: IU Site PI 04/2020 – 03/2025
  Title: Converting Cold to Hot Tumor Microenvironment in Prostate Cancer by Targeting Chromatin Effector
  The goal of this study is to characterize the function of PYGO2, a chromatin effector, to modulate gene expression in prostate cancer.

- NIH/NCI U01 CA240346 Yang (PI) Role: IU Site PI 04/2020 – 03/2025
  Title: Nucleolin recognition of MYC promoter G-quadruplex and its role in MYC regulation by MycG4-ligands
  The goal of this study is to understand the nucleolin genomic binding sites in relation to the G4-loci especially in the MYC promoter induced by MycG4-ligands by employing multiple omics approaches, such as ChIP-seq and RNA-seq.
- NIH/NCI P30 CA082709-20 Lee (PI) Role: Module PI 09/2019 – 08/2024
  Title: Indiana University Melvin and Bren Simon Cancer Center Support Grant
  The goal is to support The Indiana University Melvin and Bren Simon Comprehensive Cancer Center which organizes and facilitates cancer research, education, patient care, and cancer control and prevention and to fund the Center's five research programs and seven shared facilities.
- DOD W81XWH2010332/203995IUSM Lu (PI) Role: IU Site PI 09/2020 – 09/2023
  Title: Decoding and Disrupting the Coupled Cellular Plasticity and Myeloid Cell Instigation in Metastatic Prostate Cancer
  The goal of the study is to define the precise molecular and cellular mechanisms of PCa metastasis and to deliver new prognostic markers and therapeutic targets for treating lethal PCa.
- DOD W81XWH2010312/203994IUSM Lu (PI) Role: IU Site PI 09/2020 – 09/2023
  Title: Targeting Basal-Like Prostate Cancer with Cadherin 3 Antibody-Drug Conjugate as single agent and in combination with immunotherapy
  The goal of the study is to check whether Cadherin 3 (CDH3), a prominent basal cell marker, can become a potential therapeutic target for prostate cancer (PCa).
- IUSCCC Near Miss Initiative Wan (PI)/Hu (MPI) 05/2021 – 06/2022
  Title: Mechanisms and targeting of treatment-induced neuroendocrine differentiation in prostate cancer
  The goal is to investigate the epigenetic role of PRMT5 in promoting treatment-induced neuroendocrine differentiation (NED) in prostate cancer cells.
- NIH R01DK130866 Clinkenbeard (PI) Role: Co-I 12/2021 – 11/2026
  Title: Role of disrupted polyamine synthesis during CKD-MBD related bone loss
  The goal of this project is to enhance our knowledge on the role of iron and polyamines in CKD bone pathophysiology.
- NIH R01EY031700 Mao (PI) Role: Co-I 09/2021 – 07/2026
  Title: The role of Wnt signaling in treating glucocorticoid-induced glaucoma
  The goal of this study is to inhibit GC-induced OHT without compromising GC's anti-inflammatory effects
- NIH/NCI R01CA257430 Turchi (PI) Role: Co-I 07/2021 – 06/2026
  Title: Novel DNA damage response therapeutics targeting replication protein A
  The goal of this study is to elucidate the mechanisms and determinants of the cellular anticancer activity of our novel RPAI.
- NIH R01AI153255 Yang (PI) Role: Co-I 05/2021 – 04/2026

Title: Transcriptional and metabolic regulation of Treg cell specification for the control of allergic airway disease
The goal of this project is to advance our understanding of how Treg cells coordinate transcriptional activation and regulation of lipid biosynthesis in orchestrating the TH2 suppressor program and manifest therapeutic opportunities for treating AAD.

- DOD W81XWH2110284 Kenneth (PI) Role: Co-I 06/2021 – 05/2025
  Title: Targeting EZH2-HOTAIR to Block Platinum-Induced Ovarian Cancer Stem Cell Enrichment and Reduce Recurrence
  The goal of this study is to benefit patients by improving long-term outcomes of women with ovarian cancer.
- NIH U54 AG065181 Palkowitz (PI) Role: Co-I 09/2019 – 08/2024
  Title: IUSM Alzheimer's Disease Drug Discovery Center
  The goal of the study is to integrate sophisticated capability for early drug discovery and contribute to a broader study of emerging Alzheimer's Disease target hypothesis with the goal of generating new classes of potential therapeutics.
- NIH/NCI R25 CA233429 Zhang (PI) Role: Co-I 09/2019 – 08/2024
  Title: Big Data Training for Cancer Research
  The goal of the study is to help equip the next generation of researchers by teaching, training and mentoring recipients of this fellowship in various meetings, interactions, and trainings.
- NIH R01DK121925-01A1 Dong (PI) Role: Co-I 07/2020 – 06/2024
  Title: Epigenetic regulation in liver fibrosis
  The goal of the study is to identify potential drug targets for the treatment of liver fibrosis.
- DOD W81XWH-21-1-0281 Kenneth (PI) Role: Co-I 04/2021 – 04/2024
  Title: Blood-Based DNA Methylation Biomarkers of Acquired Platinum Resistance in Women with Ovarian Cancer
  The goal of this study is to identify DNA methylation changes associated with platinum resistance and markers which can identify patients most likely to benefit from epigenetic treatment strategies.
- NIH R01 CA225108 Yan (PI) Role: Co-I 12/2018 – 11/2023
  Title: Metabolic Regulation of PD-L1 in CD11c+ Cells
  The goal of the project is to characterize developmental and metabolic regulation of PD-L1 expression in CD11c+, PD-L1 expression of CD11c+ cells in regulating T cell proliferation and functions, and PD-L1 expression of CD11c+ cells in tumor stimulation.
- NIH/NCI R01CA231267-03 Fehrenbacher/Kelley (PI) Role: Co-I 09/2018 – 08/2023
  Title: (PQ12) Enhancement of DNA repair in neurons via a targeted APE1 small molecule modifier to decrease and reverse chemotherapy-induced peripheral neuropathy (CIPN)
  The goal of the study is to examine whether augmenting APE1 repair activity in vivo will prevent chemotherapy-induced alterations in sensory neuronal function (manifested as CIPN) without jeopardizing the cancer treatment.
- NIH R01 HL147871 Yang (PI) Role: Co-I 07/2019 – 06/2023

Title: Transcriptional Factor SOX2, Lncrna HBL1, MicroRNA1 and PRC2 Epigenetic Complex Compose A Network to Orchestrate Cardiac Differentiation from Human Pluripotent Stem Cells
The goal of the project is to explore the novel mechanism of nuclear HBL1 in initiating the cardiac gene-expressing program via interacting with polycomb repressive complex 2 (PRC2) and microRNA1 (MIR1).

- NIH R21AG071269 Brutkiewicz (PI) Role: Co-I 09/2020 – 08/2022
  Title: Analysis of the MR1/MAIT cell axis in a murine model of Alzheimer's disease
  Our goal in this application is to study how the immune system contributes to Alzheimer's disease development and its response to changes in bacteria that normally reside in the body.

Completed grants

- AHA Transformational Project Award Yang (PI) Role: Co-I 07/2019 – 06/2022
  Title: Dissecting essential roles of ARID1A in controlling cardiac and neural differentiation from human pluripotent stem cells
  The goal of the study is to understand the different roles of ARID1A in controlling cell differentiations, especially for cardiac and neural cells from human pluripotent stem cells.
- American Cancer Society Kota (PI) Role: Co-I 07/2018 – 06/2022
  Title: Role of microRNA-29 in pancreatic cancer tumor-stromal biology
  The goals of the studies to explore what critical role miR-29 plays in tumor-stromal biology and that modulation of its expression will normalize the reactive stroma and enhance drug efficacy.
- IUSM CCBB pilot grant Yang/Wan (MPI) 12/2020 – 11/2021
  Title: Determining the molecular mechanisms of SARS-CoV-2 caused heart dysfunctions
  The goals of the study to discover the mechanism how SARS-CoV-2 viral proteins impact on cardiomyocytes development.
- VA IPA (Richard L. Roudebush, VAMC) Wan (PI) 04/2020 – 12/2020
  Title: Inter-Personnel Agreement
  The goal of the study is to understanding Tumor tissue crosstalk in the microenvironment of pancreatic cancer cachexia.
- NIH SBIR Kitware, Inc. (PI) Role: Co-I 09/2018 – 08/2020
  Title: Open scalable software infrastructure for metabolomics data integration
  The goals of the study to guide the development of the software platform to integrate multiplatform metabolomics data.
- Walther Cancer Foundation Ratliff (PI) Role: IU Site co-PI 07/2017 – 06/2020
  Title: Collaborative Core for Cancer Bioinformatics and Bioinformatics Training
  The Collaborative Core for Cancer Bioinformatics (C^3B) has provided services for cancer scientists at Indiana University (IU) and Purdue University (PU). The goal of this program is to enhance training of junior bioinformaticians, especially the graduate student from IU and PU in state-of-the-art bioinformatics to assist the C^3B teams.
- Walther Cancer Foundation Loehrer (PI) Role: Co-I 07/2015 – 06/2020
  Title: Bioinformatics-Molecular Genomics/Genetics Joint IU-Purdue Initiative

The aim of this program is to establish a unique inter-institutional shared resource which leverages the strengths of the Indiana University Simon Cancer Center (IUSCC) and the Purdue Center for Cancer Research (PCCR), to enhance the collection and analysis of complex molecular data sets linked with annotated clinical information so as to accelerate basic discovery, drug discovery and broaden the applications of precision therapeutics.

PEER-REVIEW PUBLICATIONS

https://scholar.google.com/citations?user=4pP5A50AAAAJ&hl=en

§: co-corresponding author; *: co-first author

1. K Li, AKY Wang, S Liu, S Fang, AZ Lu, J Shen, L Yang, C-D Hu, K Yang, J Wan (2022) Advanced Functions Embedded in the Second Version of Database, Global Evaluation of SARS-CoV-2/hCoV-19 Sequences 2. ***Frontiers in Medicine*** 9: 813964. (PMID: 35479940)
2. J Owens, E Beketova, S Liu, Q Shen, JS Pawar, AM Asberry, J Yang, X Deng, BD Elzey, TL Ratliff, L Cheng, CR Choo, DE Citrin, TJ Polascik, B Wang, J Huang, C Li, J Wan§, CD Hu§ (2022) Targeting protein arginine methyltransferase 5 (PRMT5) suppresses radiation-induced neuroendocrine differentiation and sensitizes prostate cancer cells to radiation. ***Molecular Cancer Therapeutics*** 21(3), 448. (PMID: 35027481)
3. Q Liu, J Wan§, G Wang§ (2022) A survey on computational methods in discovering protein inhibitors of SARS-CoV-2. ***Briefings in Bioinformatics*** 23 (1), bbab416. (PMID: 34623382)
4. J Du, Q Wand, S Yang, S Chen, Y Fu, S Spath, P Domeier, D Hagin, S Anover-Sombke, M Haouili, S Liu, J Wan, L Han, J Liu, L Yang, N Sangani, Y Li, X Lu, SC Janga, MH Kaplan, TR Torgerson, SF Ziegler, B Zhou (2022) FOXP3 exon 2 controls Treg stability and autoimmunity. ***Science Immunology*** (in press).
5. J Xu, Y Liu, S Liu, W Ou, A White, S Stewart, KHR Tkaczuk, LM Ellis, J Wan, X Lu§, X He§ (2022) Metformin bicarbonate-mediated efficient RNAi for precise targeting of TP53 deficiency in colon and rectal cancers. ***Nano Today*** 43:101406. (PMID: 35251293)
6. J Liu, Y Zhang, L Han, S Guo, S Wu, EH Doud, C Wang, H Chen, M Rubart-von der Lohe, J Wan, L Yang (2022) Genome-wide Analyses Revealed the Detrimental Impacts of SARS-CoV-2 Viral Gene Orf9c on Human Pluripotent Stem Cell-derived Cardiomyocytes. ***Stem Cell Reports*** 17(3), 522. (PMID: 351803944)
7. AY Hsu, T Wang, R Syahirah, S Liu, K Li, W Zhang, J Wang, Z Cao, S Tian, S Matosevic, C Staiger, J Wan, Q Deng (2022) RORA regulates neutrophil migration and activation in zebrafish. ***Frontiers in Immunology*** 13:756034. (PMID: 35309302)
8. GM Cunningham, F Shen, X Wu, EL Cantor, L Gardner, S Philips, G Jiang, CL Bales, Z Tan, Y Liu, J Wan, JC Fehrenbacher, BP Schneider (2022) The impact of SBF2 on taxane-induced peripheral neuropathy. ***PLoS Genetics*** 18(1), e1009968. (PMID: 34986146)
9. S Fang, K Li, JK Shen, S Liu, J Liu, L Yang, CD Hu, J Wan (2021) GESS: A database of Global Evaluation of SARS-CoV-2 Sequences. ***Nucleic Acids Research*** 49(D1), D706. (PMID: 33045727)
10. Y Chen, S Fang, Q Ding, R Jiang, J He, Q Wang, Y Jin, X Huang, S Liu, ML Capitano, T Trinh, Y Teng, Q Meng§, J Wan§, HE Broxmeyer§, B Guo§ (2021) ADGRG1 enriches for

functional human hematopoietic stem cells following ex vivo expansion-induced mitochondrial oxidative stress. ***Journal of Clinical Investigation*** 131(20), e148329. (PMID: 34464351)

11. S Fang, S Liu, J Shen, AZ Lu, AKY Wang, Y Zhang, K Li, J Liu, L Yang, CD Hu, J Wan (2021) Updated SARS-CoV-2 Single Nucleotide Variants and Mortality Association. ***Journal of Medical Virology*** (selected as **cover image**) 93 (12), 6525. (PMID: 34245452)
12. J Wan, H Dai, X Zhang, S Liu, Y Ling, A-K Somani, J Xie[§], J Han[§] (2021) Distinct Transcriptomic Landscapes of Cutaneous Basal Cell Carcinomas and Squamous Cell Carcinomas. ***Genes & Diseases*** 8(2), 181. (PMID: 33997165)
13. Z Zhou, K Van der Jeught, Y Fang, T Yu, Y Li, Z Ao, S Liu, L Zhang, Y Yang, H Eyvani, M Cox, X Wang, X He, G Ji, B Schneider, F Guo, J Wan, X Zhang[§], X Lu[§] (2021) Targeted breast cancer immunotherapy with epigenetic modulation of antigen presentation on tumor cells. ***Nature Biomedical Engineering*** 5 (11), 1320. (PMID: 34725507)
14. N Morral, S Liu, AM Conteh, X Chu, Y Wang, XC Dong, Y Liu, AK Linnemann, J Wan (2021) Aberrant gene expression induced by a high fat diet is linked to H3K9 acetylation in the promoter-proximal region. ***Biochimica et Biophysica Acta - Gene Regulatory Mechanisms*** 1864(3), 194691. (PMID: 33556624)
15. G Song, G Wang, X Luo, Y Cheng, Q Song, J Wan, C Moore, H Song, P Jin, J Qian, H Zhu (2021) An All-to-All Approach to the Identification of Sequence-Specific Readers for Epigenetic DNA Modifications on Cytosine. ***Nature Communications*** 12(1), 795. (PMID: 33542217)
16. D Xu, M Yang, M Capitano, B Guo, S Liu, J Wan, H Broxmeyer[§], X Huang[§] (2021) Pharmacological activation of nitric oxide signaling promotes human hematopoietic stem cell homing and engraftment. ***Leukemia*** 35(1), 229. (PMID: 32127640)
17. SR Sripathi, MW Hu, RC Turaga, J Mertz, MM Liu, J Wan, J Maruotti, KJ Wahlin, CA Berlinicke, J Qian, DJ Zack (2021) Proteome Landscape of Epithelial-to-Mesenchymal Transition (EMT) of Retinal Pigment Epithelium Shares Commonalities With Malignancy-Associated EMT. ***Molecular & Cellular Proteomics*** 20:100131 (PMID: 34455105)
18. W Zhao, L Jiang, T Fang, F Fang, Y Liu, Y Zhao, Y You, H Zhou, X Su, J Wang, S Liu, Y Chen, J Wan, X Huang (2021) β-Lapachone selectively kills hepatocellular carcinoma cells by targeting NQO1 to induce extensive DNA damage and PARP1 hyperactivation. ***Frontiers in Oncology*** 11:747282. (PMID: 34676172)
19. NP Rayana, CK Sugali, J Dai, M Peng, S Liu, Y Zhang, J Wan, W Mao (2021) Using CRISPR interference as a therapeutic approach to treat TGFβ2-induced ocular hypertension and glaucoma. ***Investigative Ophthalmology & Visual Science*** 62(12), 7. (PMID: 34499703)
20. K Zhang, Y Zhang, Y Maharjan, F Sugiokto, J Wan, R Li (2021) Caspases Switch off the m^6A RNA Modification Pathway to Foster the Replication of a Ubiquitous Human Tumor Virus. ***mBio*** 12(4): e0170621. (PMID: 34425696)
21. J Liu, S Liu, L Han, Y Sheng, Y Zhang, I Kim, J Wan, L Yang (2021) LncRNA HBL1 is Required for Genome-Wide PRC2 Occupancy and Function in Cardiogenesis from Human Pluripotent Stem Cells. ***Development*** 148(13), dev199628. (PMID: 34027990)

22. C Zhu, M Huang, HG Kim, K Chowdhury, J Gao, S Liu, J Wan, L Wei, XC Dong (2021) SIRT6 controls hepatic lipogenesis by suppressing LXR, ChREBP, and SREBP1. ***Biochimica et Biophysica Acta - Molecular Basis of Disease*** 1867(12), 166249. (PMID: 34425214)
23. M Bam, S Chintala, K Fetcko, BC Williamsen, S Siraj, S Liu, J Wan, X Xuei, Y Liu, AT Leibold, M Dey (2021) Genome wide DNA methylation landscape reveals glioblastoma's influence on epigenetic changes in tumor infiltrating CD4+ T cells. ***Oncotarget*** 12(10), 967. (PMID: 34012510)
24. WX Huff, M Bam, JM Shireman, JH Kwon, L Song, S Newman, AA Cohen-Gadol, S Shapiro, T Jones, K Fulton, S Liu, H Tanaka, Y Liu, J Wan, M Dey (2021) Aging- and Tumor-Mediated Increase in CD8+CD28− T Cells Might Impose a Strong Barrier to Success of Immunotherapy in Glioblastoma. ***ImmunoHorizons*** 5(6), 395.
25. C Xu, Y Fu, S Liu, J Trittipo, X Lu, R Qi, H Du, C Yan, C Zhang, J Wan, MH Kaplan, and K Yang (2021) BATF regulates T regulatory cell functional specification and fitness of triglyceride metabolism in restraining allergic responses. ***Journal of Immunology*** 206(9), 2088. (PMID: 33879580)
26. MY Zhang, S Fang, H Gao, X Zhang, D Gu, Y Liu, J Wan, J Xie (2021) A critical role of AREG for bleomycin-induced skin fibrosis. ***Cell & Bioscience*** 11(1), 40. (PMID: 33622407)
27. SR Sripathi, MW Hu, MM Liu, J Wan, J Cheng, Y Duan, JL Mertz, KJ Wahlin, J Maruotti, CA Berlinicke, J Qian, DJ Zack (2021) Transcriptome Landscape of Epithelial to Mesenchymal Transition of Human Stem Cell-Derived Retinal Pigment Epithelium. ***Investigative Ophthalmology & Visual Science*** 62(4), 1. (PMID: 33792620)
28. P Bhat-Nakshatri, H Gao, L Sheng, PC McGuire, X Xuei, J Wan, Y Liu, SK Althouse, A Colter, G Sandusky, AM Storniolo, H Nakshatri (2021) A single cell atlas of the healthy breast tissues reveals clinically relevant clusters of breast epithelial cells. ***Cell Reports Medicine*** 2(3), 100219. (PMID: 33763657)
29. N Lin, J Liu, J Castle, J Wan, A Shendre, Y Liu, C Wang, C He (2021) Genome-wide DNA methylation profiling in human breast tissue by illumina TruSeq methyl capture EPIC sequencing and infinium methylationEPIC beadchip microarray. ***Epigenetics*** 16(7), 754-769. (PMID: 33048617)
30. S Liu, JK Shen, S Fang, K Li, J Liu, L Yang, CD Hu, J Wan (2020) Genetic spectrum and distinct evolution patterns of SARS-CoV-2. ***Frontiers in Microbiology*** 11:593548. (PMID: 33101264)
31. E Beketova, S Fang, J Owens, S Liu, X Chen, Q Zhang, A Asberry, X Deng, J Malola, J Huang, C Li, R Pili, B Elzey, T Ratliff, J Wan[§], CD Hu[§] (2020) Protein arginine methyltransferase 5 promotes androgen receptor transcription in a pICln-dependent manner in castration-resistant prostate cancer. ***Cancer Research*** 80(22), 4904. (PMID: 32999000)
32. R Choudhury, J Beezley, B Davis, J Tomeck, S Gratzl, L Golzarri-Arroyo, J Wan, D Raftery, J Baumes, TM O'Connell (2020) Viime: Visualization and Integration of Metabolomics Experiments. ***The Journal of Open Source Software*** 5(54), 2410. (PMID: 33768193)
33. J Liu, S Liu, H Gao, L Han, X Chu, Y Sheng, W Shou, Y Wang, Y Liu, J Wan[§], L Yang[§] (2020) Genome-wide studies reveal the essential and opposite roles of ARID1A in controlling

human cardiogenesis and neurogenesis from pluripotent stem cells. ***Genome Biology*** 21(1):169. (PMID: 32646524)

34. JL Owens, E Beketova, S Liu, C Li, J Wan[§], CD Hu[§] (2020) PRMT5 cooperates with pICln to function as a master epigenetic activator of DNA double-strand break repair genes. ***iScience*** 23(1), 100750. (PMID: 31884170)
35. N Marino, R German, X Rao, E Simpson, S Liu, J Wan, Y Liu, G Sandusky, M Jacobsen, M Stoval, S Cao, AMV Storniolo (2020) Upregulation of lipid metabolism genes in the breast prior to cancer diagnosis. ***NPJ Breast Cancer*** 6:50 (PMID: 33083529).
36. S Dey, S Liu, TD Factora, S Taleb, P Riverahernandez, L Udari, X Zhong, J Wan, J Kota (2020) Global targetome analysis reveals critical role of miR-29a in pancreatic stellate cell mediated regulation of PDAC tumor microenvironment. ***BMC Cancer*** 20(1), 651. (PMID: 32660466)
37. B Khambu, H Hong, S Liu, G Liu, X Chen, Z Dong, J Wan, XM Yin (2020) The HMGB1-RAGE axis modulates the growth of autophagy-deficient hepatic tumors. ***Cell Death & Disease*** 11(5), 333. (PMID: 32382012)
38. D Xu, D Zhou, K Bum-Erdene, BJ Bailey, K Sishtla, S Liu, J Wan, UK Aryal, JA Lee, CD Wells, ML Fishel, TW Corson, KE Pollok, SO Meroueh (2020) Phenotypic Screening of Chemical Libraries Enriched by Molecular Docking to Multiple Targets Selected from Glioblastoma Genomic Data. ***ACS Chemical Biology*** 15(6), 1424-1444. (PMID: 32243127)
39. J Wen, G Huang, S Liu, J Wan, X Wang, Y Zhu, W Kaliney, C Zhang, L Cheng, X Wen, X Lu (2020) Polymorphonuclear MDSCs are Enriched in the Stroma and Expanded in Metastases of Prostate Cancer. ***Journal of Pathology: Clinical Research*** 6(3), 171-177. (PMID: 32149481)
40. S Dey, JJ Kwon, S Liu, GA Hodge, S Taleb, TA Zimmers, J Wan, J Kota (2020) miR-29a is repressed by MYC in pancreatic cancer and its restoration exhibits anti-tumorigenicity via downregulation of LOXL2. ***Molecular Cancer Research*** 18(2), 311-323. (PMID: 31662451)
41. MM Xie, S Fang, Q Chen, H Liu, J Wan[§]**,** AL Dent[§] (2019) Follicular Regulatory T Cells Inhibit the Development of Granzyme B-Expressing Follicular Helper T Cells. ***JCI Insight*** 4(16), e128076. (PMID: 31434804)
42. J Xu, Y Liu, Y Li, H Wang, S Stewart, K Van der Jeught, P Agarwal, Y Zhang, S Liu, G Zhao, J Wan, Lu X[§], He X[§] (2019) Precise targeting of POLR2A as a therapeutic strategy for human triple negative breast cancer. ***Nature Nanotechnology*** 14(4), 388-397. (PMID: 30804480)
43. AY Hsu, D Wang, S Liu, J Lu, R Syahirah, DA Bennin, A Huttenlocher, DM Umulis, J Wan, Q Deng (2019) Phenotypical microRNA screen reveals a noncanonical role of CDK2 in regulating neutrophil migration. ***Proceedings of the National Academy of Sciences*** 116(37), 18561-18570. (PMID: 31451657)
44. Y Chen, C Yao, Y Teng, R Jiang, X Huang, S Liu, J Wan, H Broxmeyer[§], and G Bin[§] (2019) Phorbol ester induced ex vivo expansion of rigorously-defined phenotypic but not functional human cord blood hematopoietic stem cells: a cautionary tale demonstrating that phenotype does not always recapitulate stem cell function. ***Leukemia*** 33(12), 2962-2966. (PMID: 31350528)

45. HG Kim, M Huang, Y Xin, Y Zhang, X Zhang, G Wang, S Liu, J Wan, AR Ahmadi, Z Sun, S Liangpunsakul, X Xiong, XC Dong (2019) The epigenetic regulator SIRT6 protects the liver from alcohol-induced tissue injury by reducing oxidative stress in mice. ***Journal of Hepatology*** 71(5), 960-969. (PMID: 31295533)
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Humeral Immune Responses to Epstein-Barr Virus and Kaposi's Sarcoma Associated Herpesvirus Using a Viral Proteome Microarray. ***Journal of Infectious Diseases*** 204(11), 1683-1691.

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SELECTED TALKS/POSTERS/ABSTRACTS (AFTER 2017)

Invited talks

- Genomics Seminar Series, University of Wisconsin at Madison 2022

- Precision Medicine, University of Texas School of Biomedical Informatics 2021
- Center for Biomedical Informatics at Loyola University Chicago 2021
- "Philips Institute Seminar Series" at Virginia Commonwealth University (VCU) 2021
- Genomics Seminar Series, University of South Florida 2021
- BIOKDD 2020, 19th International Workshop on Data Mining in Bioinformatics 2020
- Dental School, Indiana University School of Medicine, Indianapolis IN 2021
- Purdue University, West Lafayette IN 2019
- The Biomarkers and Computational Biology Meeting at IUSM 2019
- Regenstrief Institute, Indianapolis IN 2018
- Walther Cancer Foundation Annual Symposium, South bend IN 2018
- Hematopoiesis & Hematologic Malignancies Research Program, Indiana University Simon Cancer Center, Indianapolis IN 2018
- Tumor Microenvironment & Metastasis Research Program, Indiana University Simon Cancer Center, Indianapolis IN 2018
- Purdue University Institute for Drug Discovery, West Lafayette IN 2017
- Harper Cancer Center, University of Notre Dame, South bend IN 2017
- Program Retreat of Experimental & Developmental Therapeutics, Indiana University Simon Cancer Center, Indianapolis IN 2017
- BioHealth Informatics Colloquia Series, Indiana University School of Informatics and Computing, Indianapolis IN 2017
- Walther Cancer Foundation Annual Symposium, West Lafayette IN 2016

Selected conference presentations

- X Zhong, A Narasimhan, AR Young, LM Silverman, J Liu, S Liu, EH Doud, J Wan, Y Liu, AL Mosley, LG Koniaris, TA Zimmers "Sex differences in pancreatic cancer cachexia manifestations and mechanisms in mice and humans: Role of Activin" AACR Annual Meeting Apr 9-14, 2021
- A Narasimhan, X Zhong, J Wan, S Liu, LG Koniaris, TA Zimmers "Skeletal muscle transcriptome profiling of human pancreatic cancer cachexia: Single largest study in cachexia" AACR Annual Meeting Apr 9-14, 2021
- H Jiang, A Ramadan, B Laurine, S-W Tu, H Liu, C Rowan, X Liu, H Wu, J Wan and S Paczesny **"**IL-33 Therapy Prevents Acute Lung Injury after Transplantation Via IL-9-Producing Type 2 Innate Lymphoid Cells Induction" 61st American Society of Hematology Annual Meeting & Exposition, Orlando, FL USA Dec 7-10, 2019
- MR Kelley, S Shahda, NJ Lakhani, B O'Neil, DW Rasco, J Wan, AL Mosley, H Liu and RA Messmann **"***A phase I study of the APE1 protein inhibitor APX3330 in patients with*

advanced solid tumors" AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics, Boston, MA USA Oct 26-30, 2019

- SR Sripathi, MW Hu, J Cheng, M Liu, Y Duan, J Wan, X Yang, JL Mertz, C Berlinicke, J Maruotti, KJ Wahlin, N Esumi, J Qian, and DJ Zack **"**Inhibition of NF-kB signaling modulates epithelial to mesenchymal transition in human stem cell-derived retinal pigment epithelial cells" The Association for Research in Vision & Ophthalmology (ARVO) 2019, Vancouver, BC Canada Apr 28-May 2, 2019
- S Dey, JJ Kwon, S Liu, T Factoria, GA Hodge, J Wan and J Kota **"**Mechanistic role of miR-29 in pancreatic ductal adenocarcinoma progression" AACR Annual Meeting 2019, Atlanta, GA USA Mar 29-Apr 3, 2019
- A Cerra-Franco, S Liu, M Azar, K Shiue, NC Estabrook III, K Diab, FM Kong, J Wan and T Lautenschlaeger **"**Predictors of Nodal and Metastatic Failure in Early Stage Non-Small Cell Lung Cancer after Stereotactic Body Radiation Therapy" Annual Meeting of the American Society for Radiation Oncology (ASTRO), San Antonio, TX USA Oct 21-24, 2018
- A Sehdev, O Gbolahan, BA Hancock, M Stanley, S Shahda, J Wan, HH Wu, M Radovich, and B O'Neil **"**Germline and Somatic DNA Damage Repair Gene Mutations and Overall Survival in Metastatic Pancreatic Adenocarcinoma Patients Treated with FOLFIRINOX" European Society for Medical Oncology (ESMO) 2018 Annual Congress, Munich, Germany Oct 19-23, 2018
- FM S Kong, W Wang, G Durm, J Wan, J Jin, W Pi, C Hu, MP Langer, T Lautenschlaeger, S Paczesny, TJ Birdas, and NH Hanna **"**The effect of thoracic radiation on overall survival and their association with systemic immune therapy in stage IV NSCLC: Findings from the National Cancer Database" American Society of Clinical Oncology (ASCO) Annual Meeting, Chicago, IL USA Jun 1-5, 2018
- B Kumar, M Prasad, M Anjanappa, P Nakshatri, N Marino, AM Storniolo, X Rao, S Liu, J Wan, Y Liu and H Nakshatri **"**Breast epithelial cell lines from normal breast with luminal and intrinsic subtypes -enriched gene expression document inter-individual differences in differentiation cascade" AACR Annual Meeting 2018, Chicago, IL USA Apr 14-18, 2018
- N Marino, R German, ML. Johnson, X Rao, X Xuei, J Wan and AM V Storniolo **"**Transcriptional changes in breast cancer initiation" AACR Annual Meeting 2018, Chicago, IL USA Apr 14-18, 2018
- O Oyinlade, J Wan, S Wei, J Qian, H Zhu, and S Xia **"**UGDH is required for KLF4-mCpG dependent increase in GBM cell migration" American Association for Cancer Research (AACR) Annual Meeting 2017, Washington, DC USA Apr 1-5, 2017

MENTORING EXPERIENCE

Advisor

- Shuyi Fang (Ph.D. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2017 – present
- Kailing Li (Ph.D. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2019 – present

- Dr. Sulaiman Xierzhatijiang (Postdoctoral fellow), Department of Medical and Molecular Genetics, IUSM 2022 – present
- Dr. Elnaz Pashaei (Postdoctoral fellow), Department of Medical and Molecular Genetics, IUSM 2022 – present
- Xiashiyao Zhang (Ph.D. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2022 – present
- Sandali Dewni Lokuge (Ph.D. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2022 – present
- Ying Liu (M.S. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2022 – present
- Arun Kumar Boddapati (summer student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2017
- Yi Li (summer student), Department of Chemistry, Indiana University 2017
- Michael Wang (intern), Carmel High School, Carmel IN 2019
- Alex Lu (intern), Park Tudor School, Indianapolis IN 2019
- Audrey Wang (intern), Park Tudor School, Indianapolis IN 2020

Mentoring committee member

- Alan Hsu (Ph.D. student), Department of Biological Sciences, Purdue University 2018 – 20
- Fahim Syed (Ph.D. student), Department of Microbiology, IUSM 2018 – present
- Duojiao Chen (Ph.D. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2018 – present
- Ed Ronald Simpson (Ph.D. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2018 – present
- Chuanpeng Dong (Ph.D. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2018 – present
- Enze Liu (Ph.D. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2019 – 2021
- Paige Dausinas (Ph.D. student), Department of Cellular and Integrative Physiology, Indiana University School of Medicine 2020 – present
- Deepak Kumar Lakshmipathi (M.S. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2019 – 2019
- Sunneta Modekurty (M.S. student), Department of BioHealth Informatics, School of Informatics and Computing, IUPUI 2019 – 2020

Supervisor as director of the C^3B shared by IUSCCC and PUCCR

- Dr. Yan Dong 2016 – 2017

- Dr. Nadia Atallah 2016 – present
- Guanglong Jiang 2016 – 2019
- Dr. Xi Rao 2017 – 2017
- Hao Yu 2017 – 2018
- Dr. Sheng Liu 2017 – present
- Ed Ronald Simpson 2017 – 2020
- Dr. Sagar Utturkar 2017 – present
- Dr. Yucheng Zhang 2020 – 2021
- Asha Jacob Jannu 2021 – present

COURSES TAUGHT

IUSM G788 "Introduction to Next Generation Sequencing"

- Co-instructor 2017/2018/2019/2021/2022

IUSM G848 "Bioinformatics, Genomics, Proteomics and Systems Biology"

- Lecturer 2018/2019/2020/2021

IUSM Q613 "Molecular and Biochemical Genetics Lab"

- Lecturer 2018/2019/2020/2021

IUSM Workshop "Molecular Biology"

- Lecturer 2019

IU School of Public Health "Overview of Precision Health"

- Lecturer 2020

Purdue University Workshop "Big Data Training for Cancer Research"

- Lecturer 2020

IUSM 10-week Short Course "Bioinformatics for Biologist (B4B)"

- Co-instructor 2020