Joseph M. Collins, PhD

Department of Pharmacotherapy and Translational Research
University of Florida
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EDUCATION:

PhD. Plant Molecular and Cellular Biology, University of Florida 2010 – 2018

B.S. University of Florida 2009
Major: Biology-Biotechnology
Minor: Plant Molecular and Cellular Biology

A.A. Santa Fe College 2007

ACADEMIC POSITIONS:

Research Assistant Professor 2023-Current
Department of Pharmacotherapy and Translational Research, University of Florida.

Post-Doctoral Researcher 2019-2023
Department of Pharmacotherapy and Translational Research, University of Florida.

Ph.D. Candidate 2010 - 2018
Department of Plant Molecular and Cellular Biology, Dr. William Gurley and Dr. Sixue Chen, University of Florida.

Research Associate 2009
Conducted independent research in the lab, field, and greenhouse on the genetics, physiology, and molecular biology of both *Arabidopsis thaliana* and *Zea mays*. Department of Horticultural Sciences, Dr. Karen Koch, University of Florida

Undergraduate Research Assistant 2007 - 2009
Investigated two plant enzymes responsible for sugar metabolism and their contribution to plant physiology. Department of Horticultural Sciences, Dr. Karen Koch, University of Florida.

LABORATORY SKILLS:

PCR | RTPCR | cloning | protein expression | co-immunoprecipitation | SDS-PAGE | western blotting | LCMS | BiFC | yeast two-hybrid | cell culture | genotyping | ChIP-Seq | 4C | cell transfection & reporter assays | CRISPR | data science & bioinformatics

TEACHING EXPERIENCE:

Adjunct Lecturer (BSC2005): University of Florida 2019, Spring
Biology Lab Teaching Assistant (BSC2010L): University of Florida 2014 - 2018
Epigenetics Journal Colloquium: University of Florida 2014, Spring
Undergraduate Mentoring: University of Florida 2013 - 2017
Proteomic Workshop Assistant for High-Schoolers: University of Florida 2011

CERTIFICATES:

Thermo Scientific Course Completion Certificate	2015, January

HONORS & AWARDS:

ASCPT, Presidential Trainee	2023, March
ASCPT, Best Poster 2.0	2022, March
ASCPT, Presidential Trainee	2022, January
PGRN, Top Trainee Abstract	2021, September
PMCB Retreat, Best Oral Presentation, Runner-up:	2015, May
William C. and Bertha M. Cornett Fellowship Fund: University of Florida	2014
Graduate Research Assistantship: University of Florida	2010 - 2014
Grinter Fellowship:	2010 - 2011
Central Florida Fair Scholarship Recipient	2008 - 2009
American Society of Plant Biologists Research Fellowship honorable mention	2008
Dean's List for GPA: University of Florida CALS	2007, 2009
Dean's List for GPA: Santa Fe College	2005 - 2007
Florida Bright Futures Medallion Scholar	2005 - 2009

PUBLICATIONS (18, 11-First author):

Zhou, L, Montalvo, A.D., **Collins, J.M.**, Wang, D. 2023. Quantitative analysis of the UDP-glucuronosyltransferase transcriptome in human tissues. Pharmacol Res Perspect. 11(6):e01154. PMID: 37983911.

Collins, J.M., Wang, D. 2023. A Comprehensive Evaluation of the Effects of RNA-Editing Proteins ADAR and ADARB1 on the Expression of the Drug-Metabolizing Enzymes in HepaRG Cells. Drug Metab Dispos. 51(11):1508-1514. PMID: 37532539.

Collins, J.M., Lester, H., Shabnaz, S., Wang, D. (2023) A frequent CYP2D6 variant promotes skipping of exon 3 and reduces CYP2D6 protein expression in human liver samples. Front Pharmacol. 14:1186540. PMID: 37576811.

Collins, J.M., Nworu, A.C., Mohammad, S.J., Li, L., Li, C., Li, C., Schwendeman, E., Cefalu, M., Abdel-Rasoul, M., Sun, J.W., Smith, S.A., Wang, D. (2022). Regulatory variants in a novel distal enhancer regulate the expression of CYP3A4 and CYP3A5. Clin Transl Sci, 15(11): p. 2720-2731. PMID: 36045613.

Tantawy, M., **Collins, J.M.**, Wang, D. (2022). Genome-wide microRNA profiles identify miR-107 as a top miRNA associating with expression of the CYP3As and other drug metabolizing cytochrome P450 enzymes in the liver. Front Pharmacol, (13): 943538. PMID: 36059981.

Collins, J.M., Rong, L., Wang, X., Zhu, H.J., Wang, D. (2022). Transcriptional Regulation of Carboxylesterase 1 in Human Liver: Role of the Nuclear Receptor Subfamily 1 Group H Member 3 and Its Splice Isoforms. Drug Metabolism and Disposition, (1):43-48. PMID: 34697082.

Collins, J.M. and Wang, D. (2022). Regulation of CYP3A4 and CYP3A5 by a lncRNA: an underlying mechanism explaining the association between CYP3A4*1G and CYP3A metabolism. Pharmacogenetics and Genomics, 1;32(1):16-23. PMID: 34320606

Collins, J.M. and Wang, D. (2021). Cytochrome P450 3A4 (CYP3A) Protein Quantification Using Capillary Western Blot Technology and Total Protein Normalization. Journal of Pharmacology and Toxicology Methods, 112:107117. PMID: 34474151.

Collins, J.M. and Wang, D. (2021). Co-expression of drug metabolizing cytochrome P450 enzymes and estrogen receptor alpha (ESR1) in human liver: racial differences and the regulatory role of ESR1. Drug Metabolism and Personalized Therapy, 36(3):205-214. PMID: 33823094.

Collins, J.M., Zhiguang, H., Wang, D. (2021). ESR1 ChIP-Seq Identifies Distinct Ligand-Free ESR1 Genomic Binding Sites in Human Hepatocytes and Liver Tissue. International Journal of Molecular Science, 22(3):1461. PMID: 33540646

Yang, G., **Collins, J.M**., Rafiee, R., Singh, S., Langaee, T., McDonough, C.W., Holliday, S., Wang, D., Lamba, J.K., Kim, Y.S., Pelliccioni, G.A., Vaszilko, M., Kosa, J.P., Balla, B., Lakatos, P.A., Katz, J., Moreb J., Gong, Y. (2021). SIRT1 Gene SNP rs932658 Is Associated with Medication-Related Osteonecrosis of the Jaw. Journal of Bone and Mineral Research, 36(2):347-356. PMID: 32967053

Chen, L., Chhajed, S., Zhang, T., **Collins, J.M**., Pang, Q., Song, W., He, Y., Chen, S. (2021). Protein complex formation in methionine chain-elongation and leucine biosynthesis. Science Reports, 11(1):3524. PMID: 33568694

Collins, J.M. and Wang, D. (2020) Cis-acting regulatory elements regulating CYP3A4 transcription in human liver. Pharmacogenetics and Genomics, 30:107-116. PMID: 32301865

Sun J.W, **Collins J.M.**, Ling D., Wang D. (2019) Highly variable expression of ESR1 splice variants in human liver: implication in the liver gene expression regulation and inter-person variability in drug metabolism and liver related diseases. Journal of Molecular and Genetic Medicine. 13:1000434. PMID: 32457812

Collins, J., O'Grady, K., Chen, S., Gurley, W.B. (2019) The C-terminal WD40 repeats on the TOPLESS co-repressor function as a protein-protein interaction surface. Plant Molecular Biology. 100: 47–58. PMID: 30783952

Collins, J., Dufresne, C., Gurley, W.B., Chen, S. (2018) Proteomics dataset containing proteins that obscure identification of TOPLESS interactors in Arabidopsis. Data in Brief. 20: 909–916. PMID: 30225301

McCarty, D.R.; Suzuki, M.; Hunter, C.; **Collins, J.**; Avigne, W.T.; Koch, K.E. (2013). Genetic and Molecular Analyses of UniformMu Transposon Insertion Lines. Plant Transposable Elements (pp. 157-166). Human Press.

Ellens, K.W., Richardson, L.G.L., Frelin, O., **Collins, J.**, Ribeiro, C.L., Hsieh, Y.-f., Mullen, R.T., Hanson, A.D. (2015). Evidence that glutamine transaminase and omega-amidase can act in tandem to close the methionine salvage cycle in bacteria and plants. Phytochemistry. 113:160-9. PMID: 24837359

PROFESSIONAL PRESENTATIONS (Oral):

Collins, J.M., Wang, D. Enhancers and pharmacogenes: the search for biomarkers in unexpected places. Pharmacotherapy Grand Rounds: Pharmacotherapy and Translational Research. March, 2023

Collins, J.M., Wang, D. Identification of a Distal Enhancer and Regulatory Variants Controlling Expression of the CYP3A Genes. American Society of Human Genetics. NCE Virtual Meeting. January, 2022.

Collins, J.M., Wang, D. The Continued Hunt for CYP3A regulatory variants. Pharmacotherapy and Translational Research Seminar. Gainesville, Fl. December 4, 2021.

Collins, J.M., Wang, D. Regulation that Ignores Social Distancing: Enhancers in the CYP3A Cluster. Pharmacotherapy and Translational Research Seminar. Gainesville, Fl. December 4, 2020.

Collins, J.M., Wang, D. Cis & Trans Regulation at the CYP3A Locus. Pharmacotherapy and Translational Research Seminar. Gainesville, Fl. November 8, 2019.

Collins, J.M.; O'Grady, K.; Chen, Sixue; Gurley, William. A Potential Role for the Blades of TPL. Plant Molecular and Cellular Biology Annual Retreat. Daytona Beach Shores, Fl. May 2018.

Collins, J.M.; O'Grady, K.; Chen, Sixue; Gurley, William. Non-canonical interactions contributing to Topless mediated repression. Plant Molecular and Cellular Biology Annual Retreat. Daytona Beach Shores, Fl. May 2017.

Collins, J.M.; O'Grady, K.; Chen, Sixue; Gurley, William. Topless Mediated Repression: A Bridge Unfinished. Plant Molecular and Cellular Biology Annual Retreat. Daytona Beach Shores, Fl. May 2016.

Collins, J.M.; O'Grady, K.; Chen, Sixue; Gurley, William. The Topless Corepressor Complex and the Search for Protein Partners. Plant Molecular and Cellular Biology Annual Retreat. Daytona Beach Shores, Fl. May 2015.

Collins, J.M.; O'Grady, K.; Chen, Sixue; Gurley, William. Studying the Topless Corepressor Complex via Protein Immunoprecipitation. Plant Molecular and Cellular Biology Annual Retreat. Daytona Beach Shores, Fl. May 2014.

Collins, J.M.; O'Grady, K.; Chen, Sixue; Gurley, William. A Day at the Beach with the Topless Family. Plant Molecular and Cellular Biology Annual Retreat. Daytona Beach Shores, Fl. May 2012.

Collins, J.M.; O'Grady, K.; Gurley, William. Targetable Repression and the EAR Domain. Plant Molecular and Cellular Biology student research progress talks. Gainesville, Fl. May 2011.

Collins, J.M.; Zhu, MengMeng; Chen, Sixue. The Targeted Mutagenesis of Myrosinase. Plant Molecular and Cellular Biology student research progress talks. Gainesville, Fl. February 2011.

Collins, J.M.; Ferl, Robert; Paul, Anna-Lisa. Investigating Biological Diversity in Desolate Environments. Plant Molecular and Cellular Biology student research progress talks. Gainesville, Fl. September 2010.

PROFESSIONAL PRESENTATIONS (Poster):

Collins, J.M., Yu, F., Wang, D. The RNA editing ADAR proteins broadly regulate gene expression in hepatic cells. American Society of Human Genetics. November, 2023.

Collins, J.M., Lester, H., Wang, D. A novel regulatory variant promotes CYP2D6 alternative splicing and reduces full-length CYP2D6 protein levels in liver samples. American Society for Clinical Pharmacology and Therapeutics. February, 2023.

Collins, J.M., Wang, D. Regulatory variants in a novel distal enhancer contribute to expression variation of the CYP3A genes. University of Florida College of Pharmacy Annual Research Showcase. February, 2022.

Collins, J.M., Wang, D. Identification of a Distal Enhancer and Regulatory Variants Controlling Expression of the CYP3A Genes. American Society of Human Genetics. Virtual Meeting. February, 2022.

Collins, J.M.; Wang, D. Regulation of the CYP3A genes by a distal enhancer and regulatory variants. Pharmacogenomics Research Network. Virtual Meeting. October, 2021.

Collins, J.M.; Wang, D. Mapping chromatin interactions within the CYP3A locus. American Society of Human Genetics. Virtual Meeting. October, 2021.

Collins, J.M.; Wang, D. Regulation of CYP3A genes by a novel lncRNA: a potential mechanism underlying CYP3A4*1G. American Society for Clinical Pharmacology & Therapeutics. Virtual Meeting. March, 2021.

Collins, J.M.; Wang, D. Regulation of CYP3A genes by a novel lncRNA: a potential mechanism underlying CYP3A4*1G. Pharmacogenomics Research Network. Virtual Meeting. October, 2020.

Collins, J.M.; Wang, D. Chromatin interactions occurring within the CYP3A locus. American Society of Human Genetics. Virtual Meeting. October 27-30, 2020.

Collins, J.M.; Huo, Z, Ling, D, Wang, D. Genome-wide unliganded estrogen receptor 1 (ESR1) binding in human liver. Pharmacogenomics Research Network. Houston, Texas. October 17, 2020.

Collins, J.M.; Huo, Z, Ling, D, Wang, D. Genome-wide unliganded estrogen receptor 1 (ESR1) binding in human liver. American Society of Human Genetics. Houston, Texas. October 15-19, 2020.

Collins, J.M.; Gurley, W.B.; Chen, S. Studying the Topless Corepressor Complex. PO19. 9th Annual Florida Genetics Symposium. Gainesville, Fl. October 9, 2013.

Collins, J.M.; Avigne, W.T.; Latshaw, S.P.; Hunter, C.T.; Suzuki, M.; Restrepo, C.D.; Obrien, B.A.; Wu, S.; Paxson, M.A.; Guan, J.; Petruff, T.; Sen, T.Z.; Campbell, D.; Lawrence, C.; Sachs, M.M.; McCarty, D.; Koch, K.E. Update on new maize mutants from UniformMu and how to get them. Plant Biology 2010. Annual Meeting of the American Society of Plant Biologists. Abstract P09077. Montreal, Canada. July 31 – August 4, 2010.

Collins, J.M., Eveland, A.L., Huang, L., Koch, K.E. Analysis of Two Floral-Specific Invertases. Plant Biology 2008. Annual Meeting of the American Society of Plant Biologists. Abstract P35018, p.238. Merida, Yucatan, Mexico. June 26 - July 1, 2008.

McCarty, D.R.; **Collins*, J.M.**; Avigne, W.T.; Latshaw, S.P.; Hunter, C.T. III; Suzuki, M.; O'Brien, B.A.; Restrepo, C.D.; Eveland, A.L.; Ibekwe, E.I.; Wu, S.; Guan, J.; Liu, F.; Campbell, D.; Sen, T.; Lawrence, C.; Sachs, M.; Koch, K.E. A new-mutant resource in maize: stable, single-gene knockouts from the transposon-mutagenic UniformMu population. Plant Biology 2009. Annual Meeting of the American Society of Plant Biologists. Abstract P31015, p.240. Honolulu, Hawaii. July 18-22, 2009. *Poster Presenter