

CURRICULUM VITAE
JAMES F. COLLINS
(Updated February 2021)

PROFESSOR
Food Science & Human Nutrition Department
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EDUCATION

Research Associate; Section of Gastroenterology/Nutrition, Department of Pediatrics, University of Arizona; Tucson, AZ; 6/95- 12/96

Post-Doctoral Research Fellow; Section of Gastroenterology/Nutrition, Department of Pediatrics, Vanderbilt University; Nashville, TN; 1/95- 5/95

Ph.D. (1994), Molecular Physiology; Vanderbilt University; Nashville, TN

M.S. (1991), Molecular Biology; Middle Tennessee State University; Murfreesboro, TN

B.S. (1987), Biology; Sewanee: the University of the South; Sewanee, TN

ACADEMIC APPOINTMENTS

Professor; Food Science & Human Nutrition Department, University of Florida, Gainesville, FL; 7/18-present

Associate Professor; Food Science & Human Nutrition Department, University of Florida, Gainesville, FL; 7/11-6/18

Assistant Professor; Food Science & Human Nutrition Department, University of Florida, Gainesville, FL; 8/08-6/11

Adjunct Assistant Professor; Department of Biochemistry, University at Buffalo, SUNY; Buffalo, NY; 4/07-7/08

Assistant Professor; Department of Exercise and Nutrition Sciences, University at Buffalo, SUNY; Buffalo, NY; 8/05-7/08

Adjunct Assistant Professor; Department of Nutritional Sciences, University of Arizona; Tucson, AZ; 5/04-7/05

Research Associate Professor; Section of Gastroenterology/Nutrition, Department of Pediatrics, University of Arizona; Tucson, AZ; 6/01-7/05

Research Assistant Professor; Section of Gastroenterology/Nutrition, Department of Pediatrics, University of Arizona; Tucson, AZ; 1/97- 6/01

Teaching Associate; Department of Biochemistry, University of Arizona; Tucson, AZ; 8/95-7/05

Graduate Research Assistant; Department of Molecular Physiology and Biophysics, Vanderbilt University; Nashville, TN; 1992-1994

Research Assistant II Department of Pediatric Gastroenterology/Nutrition, College of Medicine, Vanderbilt University; Nashville, TN;; 1990-1992

Teaching Assistant; Department of Biology, Middle Tennessee State University; Murfreesboro, TN; *Graduate* 1987-1990

PROFESSIONAL AND ADMINISTRATIVE APPOINTMENTS

Director, Nutritional Sciences Doctoral Program; Food Science and Human Nutrition Department, University of Florida; Gainesville, FL; May 2017- May 2020

Graduate Coordinator, Nutritional Sciences Doctoral Program; Food Science and Human Nutrition Department, University of Florida; Gainesville, FL; May 2014- May 2017

Director, Affymetrix Gene Chip Core Facility; Steele Memorial Children's Research Center, Department of Pediatrics, University of Arizona; Tucson, AZ; August 2002- July 2005

Director, Keck Bio-Imaging Facility; Steele Memorial Children's Research Center; Department of Pediatrics, Arizona Health Sciences Center; Tucson, AZ; July 1998-July 2005

Lab Manager/Research Director; Department of Pediatrics, Section of Gastroenterology/Nutrition, College of Medicine, University of Arizona; Tucson, AZ; June 1995- July 2005

AWARDS AND HONORS

University of Florida Research Foundation Professorship (2020-2023)

University Term Professorship, University of Florida (2018-2021)

Secretary (elected), International Society for Trace Element Research in Humans; 2011-2015

Mead Johnson Award, American Society of Nutrition; April 2011

Finalist, *Future Leader Award*, International Life Sciences Institute (ILSI); 2009, 2010

Mead Johnson Travel Award, Western Society for Pediatric Research Regional Meeting; Carmel, CA; 1996

PEER REVIEWED PUBLICATIONS

H INDEX = 33; I10-INDEX = 70; 4149 TOTAL CITATIONS (GOOGLE SCHOLAR [FEB. 2020])

1. Wang, X., Zhang, M. Woloshun, R.R., Yu, Y., Lee, J.K., Flores, S. R. L., Merlin, D., **Collins, J.F.** (2021) Knockdown of Intestinal Dmt1 is an Effective Adjunct Treatment to Mitigate Iron Loading in *Hamp* Knockout Mice. In preparation.
2. Lee, J.K., Ha, J-H., **Collins, J.F.** (2021) Dietary Iron Intake in Excess of Requirements Impairs Intestinal Copper Absorption in Sprague-Dawley Rat Dams, Causing Copper Deficiency in Suckling Pups. *Biomedicines*. Submitted.
3. Flores, S.R.L, Nelson, S., Woloshun, R.R., Wang, X., Ha, J-H., Yu, Y., Merlin, D., **Collins, J.F.** (2021) Intestinal iron absorption is appropriately modulated to match physiological demand for iron in wild-type and iron-loaded *Hamp* (hepcidin) knockout rats during acute colitis. *PLOS One*. In Revision.
4. **Collins, J.F.** (2021) Iron Chelates Hitch a Ride on PAT1. Editorial comment. *J. Biol. Chem.* In Press.
5. Garrick, M.D., Garrick, L. M., Zhao, L., **Collins, J.F.**, Soukup, J., Ghio, A. J. (2019) A direct comparison of divalent metal-ion transporter 1 (DMT1) and hinokitiol, a potential small molecule replacement. *Biometals*. 32(5): 745-755.
6. Wang, X., Garrick, M.D., **Collins, J.F.** (2019) Animal Models of Normal and Disturbed Iron and Copper Homeostasis. *J. Nutr.* 149(12):2085-2100.
7. Wang, X., Zhang, M. Flores, S.R.L., Woloshun, R.R., Wang, Yang, C., L. Xiang, P., Xu, X., Garrick, M.D., Vidyasagar, S., Merlin, D., **Collins, J.F.** (2019) Oral Gavage of Ginger Nanoparticle-derived Lipid Vectors Loaded with Dmt1 siRNA Mitigates Iron Loading in Murine Hereditary Hemochromatosis. *Mol. Ther.* 27(3):493-506.
8. Doguer, C., Ha, J-H., **Collins, J.F.** (2018) Intersection of Iron and Copper Metabolism in the Mammalian Intestine and Liver. *Comp. Physiol.* 14;8(4):1433-1461, 2018.
9. Wang, X., Flores, S.R.L., Ha, J-H., Doguer, C., Woloshun, R.R, Xiang, P., Grosche, A., Vidyasagar, S., **Collins, J.F.** (2018) Intestinal Divalent Metal-ion Transporter 1 (DMT1) is Essential for Optimal Assimilation of Dietary Copper in Male and Female Mice With Iron-Deficiency Anemia. *J. Nutr.* 148(8):1244-1252, 2018.
10. Wang, T., Xiang, P., Ha, J-H., Wang, X., Doguer, C., Flores, S.R.L., Kang, Y.J., **Collins, J.F.** (2018) Copper supplementation reverses dietary iron overload-induced pathologies in mice. *J. Nutr. Biochem.* 59:56-63, 2018.
11. Ha, J-H, Doguer, C., Flores, S.R.L., Wang, T., **Collins, J.F.** (2018) Progressive Increases in Dietary Iron are Associated with the Emergence of Pathologic Disturbances of Copper Homeostasis in Growing Rats. *J. Nutr.* 148(3): 373-378.
12. **Collins, J.F.** (2018) Ferroxidases and Mammalian Iron Homeostasis: Novel Insight into a Physiological Phenomenon First Described More Than Half a Century Ago. Editorial Comment. *Cell. Mol. Gastroenterol. Hepatol.* 6(4):470-471.

13. Doguer, C., Ha, J-H, Gulec, S., Vuple, C.D., Anderson, G.J., **Collins, J.F.** (2017) Intestinal Hephaestin Potentiates Iron Absorption In Weanling, Adult and Pregnant Mice Under Physiological Conditions. *Blood Adv.* 1:1335-1346.
14. Ha, J-H., Doguer, C., **Collins, J.F.** (2017) Consumption of a High-Iron Diet Disrupts Homeostatic Regulation of Intestinal Copper Absorption in Adolescent Mice. *Am. J. Physiol. GIL Physiol.* 313: G353-G360.
15. Zhang, M., Wang, X., Han, M.K., **Collins, J.F.**, Merlin, D. (2017) Oral administration of ginger-derived nanolipids loaded with siRNA as a novel approach for efficient siRNA drug delivery to treat ulcerative colitis. *Nanomedicine (Lond).* 12(16): 1927-1943.
16. Ha, J-H., Doguer, C., Wang, X., Flores, S.R., **Collins, J.F.** (2016) High-iron consumption impairs growth and causes copper-deficiency anemia in weanling Sprague-Dawley rats. *PLoS One.* 11(8):e0161033.
17. Ha, J-H., Doguer, C. **Collins, J.F.** (2016) Knockdown of copper-transporting ATPase 1 (Atp7a) impairs iron flux in fully-differentiated rat (IEC-6) and human (Caco-2) intestinal epithelial cells. *Metallomics.* 8(9):963-972.
18. Zhang, M., **Collins, J.F.**, Merlin, D. (2016) Do ginger-derived nanoparticles represent an attractive treatment strategy for inflammatory bowel diseases? *Nanomedicine (Lond).* 11(23)3035-3037.
19. **Collins, J.F.** (2015) Long noncoding RNAs and hepatocellular carcinoma. Editorial Comment. *Gastroenterology.* 148(2): 291-94.
20. Gulec, S., Anderson, G.J., **Collins, J.F.** (2014) Mechanistic aspects of intestinal iron transport. *Am. J. Physiol. GIL Physiol.* 307(4): G397-409.
21. Gulec, S., **Collins, J.F.** (2014) Molecular mediators governing iron-copper interactions. *Ann. Rev. Nutr.* 34: 95-116.
22. Gulec, S., **Collins, J.F.** (2014) Silencing the Menkes copper transporting ATPase (Atp7a) gene in rat intestinal epithelial cells increases iron flux via transcriptional induction of ferroportin 1 (Fpn1). *J. Nutr.* 144(2): 12-9.
23. Gulec, S., and **Collins, J.F.** (2014) Silencing of the Menkes copper-transporting ATPase (Atp7a) gene increases cyclin D1 protein expression and impairs proliferation of rat intestinal epithelial (IEC-6) cells. *J. Trace. Elem. Med. Biol.* 28(4): 459-64.
24. Jiang, L., Garrick, M.D., Garrick, L.M. Zhao, L., **Collins, J.F.** (2013) Divalent metal transporter 1 (Dmt1) mediates copper transport in the duodenum of iron-deficient rats and when overexpressed in iron-deprived HEK-293 cells. *J. Nutr.* 143(12):1927-33.
25. Xie, L., **Collins, J.F.** (2013) Transcription factors Sp1 and Hif2 α mediate induction of the copper-transporting ATPase (Atp7a) gene in intestinal epithelial cells during hypoxia. *J. Biol. Chem.* 288(33):23943-52.
26. Gulec, S., **Collins, J.F.** (2013) Investigation of iron metabolism in mice expressing a mutant Menkes copper transporting ATPase (Atp7a) protein with diminished activity (Brindled; Mo^{Br/y}). *PLOS One.* 11;8(6):e66010.
27. Xie, L., Collins, J.F. (2012) Copper stabilizes the Menkes copper-transporting ATPase (Atp7a) protein in rat intestinal epithelial cells. *Am. J. Physiol. Cell Physiol.*, 304(3):C257-62
28. Lu, Y., Kim, C., **Collins J.F.** (2012) Multiple Menkes copper ATPase (Atp7a) transcript and protein variants are induced by iron deficiency in rat duodenal enterocytes. *J. Trace Elem. Biol. Med.* 26(2-3):109-14

29. Ranganathan, P.N., Lu, Y., Fuqua, B.K., **Collins, J.F.** (2012) Discovery of a cytosolic/soluble ferroxidase in rodent enterocytes. *Proc. Natl. Acad. Sci. USA.* 109(9):3564-9.
30. Ranganathan, P.N., Lu, Y., Fuqua, B.K., **Collins, J.F.** (2012) Immunoreactive Hephaestin and ferroxidase activity are present in the cytosolic fraction of rat enterocytes. *Biometals.* 25(4):687-95.
31. Klevay, L., **Collins, J.F.** (2011) Copper. *Adv. Nutr.* 2(6):520-22.
32. Jiang, L, Ranganathan, P.N., Lu, Y., Kim, C., **Collins J.F.** (2011) Exploration of the Copper Related Compensatory Response in the Belgrade Rat Model of Genetic Iron Deficiency. *Am. J. Physiol. Gastrointest. Liver Physiol.* 301(5):G877-86.
33. Ranganathan, P.N., Lu, Y., Jiang, L., Kim, C. **Collins, J.F.** (2011) Serum ceruloplasmin protein expression and activity increases in iron-deficient rats and is further enhanced by higher dietary copper intake. *Blood.* 118(11):3146-53.
34. Xie, L., **Collins, J.F.** (2011) Transcriptional regulation of the Menkes copper ATPase (Atp7a) gene by hypoxia-inducible factor (HIF2 α) in intestinal epithelial cells. *Am. J. Physiol. Cell Physiol.* 300(6):C1298-305.
35. Hu, Zihua, Gulec, S., **Collins, J.F.** (2010) Cross-Species Comparison of Genome-Wide Gene Expression Profiles Reveals a Preferential Induction of Hypoxia Inducible Factor (HIF) Responsive Genes in Iron Deprived Intestinal Epithelial Cells. *Am. J. Physiol. Cell Physiol.* 299:930-938.
36. **Collins, J.F.**, Prohaska, J.R., Knutson, M.K. (2010) Metabolic Crossroads of Iron and Copper. *Nutr. Rev.* 68(3):133–147.
37. **Collins J.F.**, Hua, P., Lu, Y., Ranganathan, P.N. (2009) Alternative Splicing of the Menkes Copper Atpase (Atp7a) Transcript in the Rat Intestinal Epithelium. *Am. J. Physiol. Gastrointest. Liver Physiol.* 297: G695–G707.
38. **Collins, J.F.**, Wessling-Resnick, M., Knutson, M.D. (2008) Hepcidin regulation of iron transport. *J. Nutrition.* 138(11):2284-8.
39. **Collins, J.F.**, Hu, Z, Ranganathan, P. N., Feng, D., Garrick, L.M., Garrick, M.D., Browne, R.W. (2008) Induction of Arachidonate 12-Lipoxygenase in Intestine of Iron-Deficient Rats Correlates With Production of Biologically Active Lipid Mediators. *Am. J. Physiol. GI/Liv. Physiol.* 294(4):G948-62.
40. **Collins, J.F.** (2007) Novel insights into intestinal and renal folate transport. *Am. J. Physiol. Cell Physiol.* Editorial Focus. 294(2):C381-2.
41. Hu, Z., Hu, B., **Collins, J.F.** (2007) Prediction of synergistic transcription factors by function conservation. *Genome Biology.* 8(12):R257.
42. **Collins, J.F.**, Hu, Z. (2007) Promoter analysis of intestinal genes induced during iron-deprivation reveals enrichment of conserved Sp1-like binding sites. *BMC Genomics.* 8(1):420.
43. **Collins, J.F.** (2006) Gene Chip Analyses Reveal Differential Genetic Responses to Iron-Deficiency in Rat Duodenum and Jejunum. *Biol. Res.* 39:25-37.
44. Kolek, O.I., Hines, E.R., Jones, M.D., Lesueur, L.K., Lipko, M.A., Kiela, P.R., **Collins, J.F.**, Haussler, M.R., and Ghishan, F.K. (2005) 1 α ,25-dihydroxyvitamin D₃ up-regulates FGF23 gene expression in bone: the final link in a renal-gastrointestinal-skeletal axis that controls phosphate transport. *Am. J. Physiol. Gastrointest. Liver Physiol.* 289(6):G1036-42.

45. Ravia, J.J., Stephen, R.M., Ghishan, F.K., and **Collins, J.F.** (2005) Menkes Copper ATPase (*Atp7a*) is a novel Metal-Responsive Gene in Rat Duodenum and Immunoreactive Protein is Present on Brush-Border and Basolateral Membrane Domains. *J Biol Chem.* 280(43):36221-7.
46. **Collins, J.F.**, Cumming, C. A., Kowdley, K. V., and Ghishan, F.K. (2005) Identification of Differentially Expressed Genes in Response to Dietary Iron- Deprivation in Rat Duodenum. *Am. J. Physiol. Gastrointest. Liver Physiol.* 288(5):G964-71, 2005.
47. Xu, H., Uno J.K., Inouye, M., **Collins, J.F.**, and Ghishan, F.K. (2005) NF1 transcriptional factor(s) is required for basal promoter activation of the human intestinal NaPi-IIb cotransporter gene. *Am. J. Physiol. Gastrointest. Liver Physiol.* 288(2):G175-81.
48. Dixit, M.P., Xu, L., Xu, H., Bai, L., **Collins, J.F.**, and Ghishan, F.K. (2004) Effect of angiotensin-II on renal Na⁺/H⁺ exchanger-NHE3 and NHE2. *Biochim. Biophys. Acta.* 1664(1):38-44.
49. Xu, L., Dixit, M.P., Chen, R., Dixit, N.M., **Collins, J.F.**, and Ghishan, F.K. (2004) Effects of angiotensin II on NaPi-IIa co-transporter. *Biochim. Biophys. Acta.* 1667(2):114-21.
50. Hines, E.R., Kolek, O., Serey, S., Jurutka, P., Haussler, M.R., **Collins, J.F.** and Ghishan, F.K. (2004) Vitamin D₃ downregulates PHEX gene expression by apparent repression of a novel 110 kDa transactivating factor which interacts with a poly-adenine region in the promoter. *J. Biol. Chem.* 5;279(45):46406-14.
51. Xu, H., Uno, J.K., Inouye, M., **Collins, J.F.**, and Ghishan, F.K. (2004) NF1 transcriptional factor(s) is required for basal promoter activation of the human intestinal NaPi-IIb cotransporter gene. *Am. J. Physiol. Gastrointest. Liver Physiol.* 288(2):G175-81.
52. **Collins, J.F.**, and Ghishan, F.K. (2004) Genetic responses to dietary phosphorus deprivation: lessons learned from the rainbow trout. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* Editorial Focus. 287(3):R522-3.
53. Xu, H., Uno J.K., Inouye, M., Xu, L., Drees J.B., **Collins, J.F.** and Ghishan, F.K. (2003) Regulation of intestinal NaPi-IIb cotransporter gene expression by estrogen. *Am. J. Physiol. Gastrointest. Liver Physiol.* 285(6):G1317-24.
54. Xu, H., Inouye, M., Hines, E.R., **Collins, J.F.** and Ghishan, F.K. (2003) Transcriptional regulation of the human NaPi-IIb cotransporter by EGF in Caco-2 cells involves c-Myb. *Am. J. Physiol. Cell Physiol.* 284(5):C1262-71.
55. Kiela, P.R., LeSueur, J., **Collins, J.F.** and Ghishan, F.K. (2003) Transcriptional regulation of the rat NHE3 gene: Functional interactions between GATA-5 and Sp family transcription factors. *J. Biol. Chem.* 278(8):5659-68.
56. **Collins, J.F.**, Bai, L., and Ghishan, F.K. (2003) The SLC20 family of proteins: dual functions as sodium-phosphate cotransporters and viral receptors. Review. *Pflugers Archives (European Journal of Physiology).* 447(5):647-52.
57. Xu, H., Inouye, M., Missey, T., **Collins, J.F.** and Ghishan, F.K. (2003) Functional characterization of the human intestinal NaPi-IIb cotransporter in hamster fibroblasts and *Xenopus* oocytes. *Biochim. Biophys. Acta.* 1567(1-2):97-105.
58. Hines, E. R.*, **Collins, J.F.***, Jones, M.D., Serey, S. H., and Ghishan, F. K. (2002) Glucocorticoid Regulation of the Murine PHEX Gene. *Am. J. Physiol. Renal Physiol.* 283(2):F356-63.***Co-First Authors.**

59. Arima, K., Hines, E.R., Kiela, P.R., Drees, J.B., **Collins, J.F.** and Ghishan, F.K. (2002) Glucocorticoid Regulation and Glycosylation of the Mouse Intestinal Type Na/P_i-IIb Cotransporter During Ontogeny. *Am. J. Physiol. Gastrointest. Liver Physiol.* 283(2):G426-34.
60. Xu, H., Bai, L., **Collins, J.F.** and Ghishan, F.K. (2002) Age-dependent regulation of rat intestinal sodium-phosphate cotransporter (NaP_i-IIb) by 1,25-(OH)₂ vitamin D₃. *Am J. Physiol. Cell Physiol.* 282(3):C487-93.
61. Bai, L., **Collins, J.F.**, Xu, H. and Ghishan, F.K. (2001) Molecular cloning of the murine mPit-2 gene promoter. *Biochim. Biophys. Acta.* 1522(1): 42-45.
62. Bai, L., **Collins, J.F.**, Xu, H., and Ghishan, F.K. (2001) Molecular and functional characterization of a novel neuronal vesicular glutamate transporter. *J. Biol. Chem.* 276 (39): 36764-36769.
63. Xu, H., **Collins, J.F.**, Bai, L., Kiela, P.R., Lynch, R.M. and Ghishan, F.K. (2001) Epidermal growth factor regulation of rat NHE2 gene expression. *Am. J. Physiol. Cell Physiol.* 281(2):C504-13.
64. Kiela, P.R., **Collins, J.F.** and Ghishan, F.K. (2001) Regulation of the sodium-hydrogen exchanger (NHE3) gene promoter by sodium butyrate. *Am. J. Physiol. Gastrointest. Liver Physiol.* 281(4):G947-56.
65. Bai, L., **Collins, J. F.** Xu, H. and Ghishan, F. K. (2001) Transcriptional regulation of the rat Na⁺/H⁺ exchanger isoform-2 (*NHE-2*) gene by Sp1 transcription factor. *Am. J. Physiol.* 280: C1168-C1175.
66. Xu, H., **Collins, J.F.**, Bai, L., and Ghishan, F.K.. (2001) Regulation of the human sodium-phosphate cotransporter (NaP_i-IIb) gene promoter by epidermal growth factor (EGF). *Am. J. Physiol.* 280: C628-C636.
67. Hines, E., **Collins, J. F.**, Arima, K., and Ghishan, F. K. (2000) Molecular cloning of the murine *PHEX* gene promoter. *Biochim. Biophys. Acta.* 1493: 333-336.
68. Arima, K., **Collins, J. F.**, Kiela, P. R., Hines, E., Bai, L., and Ghishan, F. K. (2000) Molecular cloning of murine sodium-phosphate cotransporter Na/Pi-IIb gene promoter and characterization of Na/Pi-IIb gene structure. *Biochim. Biophys. Acta.* 1494: 149-154.
69. Bai, L., **Collins, J. F.**, and Ghishan, F. K. (2000) Cloning and characterization of a type III Na/P_i transporter (mPit-2) from mouse intestine. *Am. J. Physiol.* 279: C1135-C1143.
70. **Collins, J. F.**, Kiela, P. R., Xu, H., and Ghishan, F. K. (2000) Ontogenic changes in NHE-2 and NHE-3 expression in the rat kidney. *Biochim Biophys Acta.* 1469:7-17.
71. Kiela, P. R., Guner Y. S., Xu, H., **Collins, J. F.**, and Ghishan F. K.. (2000) Age- and tissue-specific induction of NHE3 by glucocorticoids in the rat small intestine. *Am. J. Physiol.* 278: C629-C637.
72. Guner, Y.S., Kiela, P.R., Xu, H., **Collins, J.F.**, Ghishan, F.K. (1999) Differential regulation of the rat renal sodium-phosphate transporter (NaP_i-2) during ontogeny by glucocorticoids. *Am. J. Physiol.* 277: C884-C890.
73. Xu, H, Bai, L., **Collins, J.F.**, Ghishan, F.K. (1999) Molecular cloning, chromosomal localization and tissue distribution of a human small intestinal sodium-phosphate (NaP_i) transporter (SLC17A3). *Genomics.* 62: 281-284.
74. Bai, L, **Collins, J.F.**, Muller, Y.L., Xu, H., Kiela, P.R., and Ghishan, F.K. (1999) OsmoE, a novel *cis*-element required for osmotic response of the rat sodium-hydrogen exchanger isoform 2 (NHE-2) gene. *Am. J Physiol.* 277: R1112-R1119.

75. Muller , Li*, **Collins, J.F.***, Bai, L, Xu, H and Ghishan, F.K. (1998) Molecular cloning and characterization of rat NHE2 gene promoter. *Biochim. Biophys. Acta.* 1442:314-319. ***co-first authors.**
76. **Collins, J.F.**, Kiela, P. R., H. Xu, Zeng, J., and Ghishan, F.K. (1998) Increased NHE2 expression in rat intestinal epithelium during ontogeny is transcriptionally mediated. *Am. J. Physiol.* 275: C1143-C1150.
77. Michail, S., **Collins, J.F.**, Xu, H., Kaufman, S., Vanderhoof, J., and Ghishan, F.K. (1998) Decreased expression of brush-border transporters (NHE2, NHE-3, SGLTI) but normal expression of a basolateral membrane transporter (NHE1) in the duodenal mucosa of 2 patients with microvillus inclusion disease. *J. Ped. Gastro. Nutr.* 27: 536-542.
78. Muller, Y.L., **Collins, J.F.**, and Ghishan, F.K. (1998) Genetic screening of X-linked hypophosphatemic mice and a defect of sodium-phosphate transport in the early stage. *Ped. Res.* 44: 633-638.
79. **Collins, J. F.**, Xu, H., Zeng, J, and Ghishan, F.K. (1998) Ontogeny of basolateral membrane sodium-hydrogen exchange (NHE) activity and mRNA expression of NHE1 and NHE-4 in rat kidney and jejunum. *Biochim. Biophys. Acta* 1369: 247-258.
80. **Collins, J.F.**, Xu, H., Kiela, P.R., Zeng, J. and Ghishan, F.K. (1997) Functional and molecular characterization of NHE3 expression during ontogeny in rat jejunal epithelium. *Am. J. Physiol.* 273: C1937-C1946.
81. Taufiq, S., **Collins, J.F.**, and Ghishan, F.K. (1997) Dietary regulation of the renal Na⁺-dependent phosphate transporter during early ontogeny in the rat. *Proc. Soc. Exp. Biol. Med.* 215: 281-289.
82. **Collins, J.F.**, Zeng, J., and Ghishan, F.K. (1997) In-vivo adaptation of the mouse renal sodium-phosphate transporter to low Pi diet is not related to gene transcription. *Nutrition Research.* 17(2): 295-304.
83. Taufiq, S., **Collins, J.F.**, and Ghishan, F.K. (1997) Post transcriptional mechanisms regulate ontogenic changes in the rat renal sodium-phosphate transporter. *Am. J. Physiol.* 272(41): R134-R141.
84. **Collins, J.F.**, and Ghishan, F.K. (1996) The renal sodium-phosphate transporter and X-linked hypophosphatemic vitamin D-resistant rickets. Review. *Nutrition Research* 16(5): 881-898.
85. **Collins, J.F.**, and Ghishan, F.K. (1996) The molecular defect in the sodium-phosphate transporter expression pathway of gyro (*Gy*) mice is distinct from that of hypophosphatemic (*Hyp*) mice. *FASEB J.* 10(7): 751-759.
86. **Collins, J.F.**, Scheving, L.A., and Ghishan, F.K. (1995) Decreased transcription of the sodium-phosphate transporter gene in the hypophosphatemic mouse. *Am. J. Physiol.* 269(38): F439-F448.
87. **Collins, J.F.**, Bulus, N.M., and Ghishan, F.K. (1995) Low phosphate diet upregulates sodium phosphate transporter activity, and mRNA and immunoreactive protein levels in normal and hypophosphatemic mice. *Am J. Physiol.* 268: G917-G924.
88. **Collins, J.F.**, and Ghishan, F.K. (1994) Molecular cloning, functional expression, tissue distribution, and *in-situ* hybridization of the renal sodium-phosphate (Na⁺/P_i) transporter in the control and hypophosphatemic mouse. *FASEB J.* 8(11): 862-868.
89. **Collins, J.F.**, Honda, T., Knobel, S., Bulus, N.M., Conary, J., DuBois, R., and Ghishan, F.K. (1993) Molecular cloning, sequencing, tissue distribution, and functional expression of a Na⁺/H⁺ exchanger (NHE-2). *Proc. Natl. Acad. Sci. USA* 90: 3938-3942.

TEXTBOOK CHAPTERS

1. **Collins, J. F.** (2021) “Copper Nutrition and Biochemistry & Human (Patho)Physiology”. In: *Latest Research and Development of Minerals in Human Nutrition*. Advances in Food and Nutrition Research book series. Elsevier. In Press.
2. **Collins, J. F.** (2020) “Copper”. In: *Present Knowledge in Nutrition*, 11th edition. Wiley.
3. Anderson G.J., Lu Y., Frazer D. M., **Collins, J.F.** (2019) “Intestinal Iron Absorption”. In: *Encyclopedia of Gastroenterology*. 2nd edition. Academic Press.
4. **Collins, J.F.** (2017) “Copper: Basic Physiologic and Nutritional Aspects”. In: *Molecular, Genetic and Nutritional Aspects of Major and Trace Minerals*. Academic Press
5. **Collins, J.F.**, Flores, S.R., Wang, X. and Anderson, G.J. (2017) “Mechanisms of Intestinal Iron Absorption” In: *Physiology of the Gastrointestinal Tract*, 6th Edition. Academic Press.
6. **Collins, J.F.** (2011) “Copper” for *Modern Nutrition in Health and Disease*, 11th Edition; Lipcott, Williams and Wilkins.
7. Kiela, P.R., **Collins, J.F.**, Ghishan, F.K. (2011) “Molecular Mechanisms of Intestinal Transport of Calcium, Phosphate and Magnesium” for *Physiology of the Gastrointestinal Tract*, 5th Edition. Academic Press.
8. **Collins, J. F.** and Anderson, G.J. (2011) “Mechanisms of Intestinal Iron Absorption” for *Physiology of the Gastrointestinal Tract*, 5th Edition. Academic Press.
9. **Collins, J.F.** Bai, L., Xu, H., and Ghishan, F.K. (2005) “Molecular Aspects and Regulation of Gastrointestinal Function During Post-Natal Development”. For *Physiology of the Gastrointestinal Tract*, 4th Edition. Academic Press.
10. **Collins, J.F.** and Ghishan, F.K. (2005) “Molecular Mechanisms of Intestinal Transport of Calcium, Phosphate and Magnesium”. For *Physiology of the Gastrointestinal Tract*, 4th Edition. Academic Press.

PRESENTATIONS

Invited International

Invited Speaker; 2020 Korean Society of Food Science and Nutrition (KFN) international academic conference; Jeju, South Korea. Oct. 2020 (virtual due to COVID-19 pandemic)

Invited Keynote Speaker; 8th International Workshop on Contaminant Bioavailability in Terrestrial Environments; Nanjing, China. Oct. 2015

Invited Plenary Speaker; 6th Meeting of the International Bioiron Society; Zhejiang University, Hangzhou, China. Sept. 2015.

Short-Term Visiting Scholar and Invited Speaker. Regenerative Medicine Research Center, West China Hospital, Sichuan University; Chengdu, China. Nov. 2014

Physiological roles of copper in mammalian iron homeostasis. *X ISTERH*; 10th meeting of the International Society for Trace Element Research in Humans (ISTERH); Tokyo, Japan. Nov. 2013.

The Copper Related Compensatory Response to Iron Deficiency. *Fourth International Workshop on Iron and Copper Homeostasis*. Pucon, Chile. Dec. 2011.

The influence of copper on body iron homeostasis. *IX Meeting of the International Society for Trace Element Research In Humans (ISTERH)*. Belek, Antalya, Turkey, 10/11.

Copper and the Compensatory Response to Iron Deficiency. *Trace Elements in Man and Animals (TEMA) 14 Conference*; Enshi, China, Oct., 09/11.

Transcriptional Regulation of the Menkes Copper ATPase Gene by HIF2 α in Intestinal Epithelial Cells. *4th Congress of the International BioIron Society*. Vancouver, British Columbia, CA, 06/11.

Molecular Regulation of the Menkes Copper ATPase During Iron-Deficiency; *Trace Elements in Man and Animals (TEMA) 13 Conference*; Pucon, Chile, 11/08.

Molecular Regulation of the Menkes Copper ATPase (Atp7a) and Divalent Metal Transporter 1 (Dmt1) by Iron in Rat Duodenum and IEC-6 Cells; *VIIIth Meeting of the International Society for Trace Element Research In Humans (ISTERH)*. Hersonissos, Crete, Greece; 10/07

Comparative Gene Chip Analyses Reveal Induction of Copper Transport-Related Genes in Iron-Deficient Rats at Different Developmental Stages. *Third International Workshop on Iron and Copper Homeostasis*. Renaca, Chile, 12/04

Invited National

Invited Speaker; FASEB Conference on Trace Elements in Biology and Medicine; Steamboat Spring, CO; June 2020 (cancelled because of Covid-19 pandemic- rescheduled 2022)

Invited Symposium Speaker; *Modeling disturbances of iron metabolism in experimental animals*; Research Symposium; Nutrition 2019; Baltimore, MD; June 2019

Visiting Professor/Invited Research Seminar Speaker; Marion Bessin Liver Research Center and the Division of Hepatology, Albert Einstein College of Medicine; Bronx, NY; March 2019

Invited Speaker, *Nutritional Anemias*; Translational symposium. Digestive Disease Week annual meeting; Washington D.C; June 2018

Visiting Professor/Invited Research Seminar Speaker; Chemistry Department, University of Alabama; Tuscaloosa, AL; April 2016

Visiting Professor/Invited Research Seminar Speaker; Digestive Health Center; Cincinnati Children's Hospital Medical Center; Cincinnati, OH; November 2015

Visiting Professor/Invited Research Seminar Speaker: Basic Sciences Research Seminar; Emory University, Atlanta, GA; March 2015

Invited Speaker: The 2nd Shanthi V. Sitaraman Intestinal Pathobiology Symposium; Georgia State University, Atlanta, GA; March 2015

Visiting Professor/Invited Research Seminar Speaker: Research-In-Progress Conference Series; Marshall University, Huntington, WV; November 2014

Visiting Professor/Invited Research Seminar Speaker: Digestive Diseases Research Group, Shanthi Sitaraman Lecture Series; Georgia State University; Atlanta, GA; February 2014.

Visiting Professor/Invited Research Seminar Speaker; Department of Biochemistry, West Virginia University; Morgantown, WV; November 2013.

Visiting Professor/Invited Research Seminar Speaker; Dept. of Medicine, Section of Gastroenterology and Hepatology, University of Illinois, Chicago; Chicago, IL; March 2012.

Visiting Professor/Invited Research Seminar Speaker; Liver Center of Excellence, Virginia Mason Medical Center; Seattle, WA; June 2011

Mechanisms of intestinal iron absorption. Translational symposium. Digestive Disease Week annual meeting, New Orleans, LA; May 2010

Visiting Professor/Invited Research Seminar Speaker; Grand Forks Human Nutrition Research Center, Grand Forks, ND; October 2007

Visiting Professor/Invited Research Seminar Speaker; School of Medicine, Dept. of Anatomy, University of North Dakota; Grand Forks, ND; October 2007.

Visiting Professor/Invited Research Seminar Speaker; Department of Pharmacology and Physiology, University of Medicine and Dentistry of New Jersey- the NJ Medical School; December 2005, 12/05

Invited participant and presenter in the *Mead Johnson Neonatal Nutrition Symposium*; Marco Island, FL; December 1998

Invited Local

Invited Research Seminar Speaker, Division of Pulmonary, Critical Care and Sleep Medicine, College of Medicine, University of Florida; Feb. 2019

Invited Research Seminar Speaker, Physiological Sciences, College of Medicine, University of Florida; Oct. 2015

Invited Research Seminar Speaker, Animal Sciences, College of Agriculture and Life Sciences, University of Florida; March 2012

Selected International

Wang, X. (presenter), **Collins, J.F.** Orally-delivered ginger nanoparticle-derived lipid vectors target functional Dmt1 siRNAs to duodenal enterocytes and mitigate iron loading in hepcidin KO mice. Oral abstract presentation. 8th congress of the International BioIron Society; Heidelberg, Germany. 05/2019

Collins, J. F., Oral abstract presentation. 6th Meeting of the International Bioiron Society; Zhejiang University, Hangzhou, China. 09/2015

Xie, L., **Collins, J.F.** (presenter). Transcriptional Regulation of the Menkes Copper ATPase (*Atp7a*) Gene in Intestinal Epithelial Cells by Hypoxia Inducible Factor 2 α (Hif2 α) During Iron Deprivation". 7th International Copper Meeting, Alghero, Sardinia, Italy; 10/2010.

Oral abstract presentation entitled "Alternative splicing of the Menkes copper Atpase (*Atp7a*) reveals cytosolic and nuclear versions of the *Atp7a* protein in rat and human intestinal epithelial cells" at the 6th *International Copper Meeting*; Alghero, Sardinia, Italy; 10/08

Podium presentation (20 min) entitled "Altered arachidonic acid metabolism in the intestine of iron and iron/copper-deficient rats: strong induction of arachidonate 12-lipoxygenase". 2nd *Congress of the International BioIron Society*, Kyoto Japan; 4/07

Oral abstract presentation entitled "The Menkes Copper ATPase (ATP7a) is induced by iron-deprivation and is present on brush-border and basolateral membranes of duodenal enterocytes" at the 1st *Congress of the International BioIron Society*, Prague, Czech Republic; 5/05

Selected National

Transcriptional regulation of the Menkes copper ATPase (*Atp7a*) gene by iron. *Experimental Biology 2009*; New Orleans, LA; 4/09

Alternative splicing of the Menkes Copper Atpase (*Atp7a*) gene. *Experimental Biology 2008*; San Diego, CA; 4/08

Novel Differentially Expressed Genes Revealed by Microarray Analysis of Duodenum in Patients with Disorders of Iron Homeostasis. *Digestive Disease Week Annual Meeting*; Los Angeles, CA; 5/06

Oral abstract presentation at *Experimental Biology 2004* entitled "Downregulation of the intestinal type IIb sodium-phosphate cotransporter in the anemic rat". Washington, D.C.; 5/04

Oral abstract presentation at the Intestinal Sodium-Hydrogen Exchanger Research Forum; *Digestive Disease Week Meeting*; Washington, D.C.; 5/97

Oral abstract presentation; Western regional meeting: *Western Society for Pediatric Research*. Carmel, CA; February 1996.

ADVISORY GROUP SERVICE / GRANT PROPOSAL REVIEWS

Biotechnology and Biological Sciences Research Council (BBSRC), United Kingdom. Grant proposal review (*ad hoc*). Nov. 2020

Alaska-INBRE (IDeA [Institutional Development Award] Network of Biomedical Research Excellence) program; The Scientific Peer Advisory and Review Services (SPARS) division of the American Institute of Biological Sciences (AIBS). April 2020

United States-Israel Binational Science Foundation, Jerusalem, Israel (*ad hoc*); April 2020
2019/05 ZRG1 EMNR-G (02) M; Special Emphasis Panel/Scientific Review Group; Topics in Metabolism and Disease (NIDDK); March 2019

Scientific Merit Review Board for Gastroenterology (VA-GAST), Department of Veterans Affairs, Veterans Health Administration (*ad hoc*); Dec. 2018

CSR Anonymization Project; National Institutes of Health Center for Scientific Review (CSR); Program Evaluation of NIH Peer Review Processes: The Role of Anonymization; Oct. 2018

ZRG1 DKUS SEP M (05); Special Emphasis Panel/Scientific Review Group; GI Physiology and Pathology, National Institute for Digestive, Diabetes and Kidney Diseases (NIDDK); July 2017

Alaska-INBRE (IDeA [Institutional Development Award] Network of Biomedical Research Excellence) program; The Scientific Peer Advisory and Review Services (SPARS) division of the American Institute of Biological Sciences (AIBS). Jan. 2017

Scientific Merit Review Board for Gastroenterology (VA-GAST), Department of Veterans Affairs, Veterans Health Administration (Committee Chair); Dec. 2016-June 2018

Scientific Merit Review Board for Gastroenterology (VA-GAST), Department of Veterans Affairs, Veterans Health Administration (Standing Member); May 2013-June 2016

Clinical and Integrative Molecular Gastroenterology study section (Standing Member), National Institute for Digestive, Diabetes and Kidney Diseases (NIDDK); July 2012-June 2018

ZDK1 GRB-8 (J4) 1; Ancillary Study on Bariatric Surgery; Special Emphasis Panel; Kidney and Urology, National Institute for Digestive, Diabetes and Kidney Diseases (NIDDK); Dec. 2015

ZRG1 DKUS-A (03) M; Special Emphasis Panel; Kidney and Urology, National Institute for Digestive, Diabetes and Kidney Diseases (NIDDK); June 2015

Special Emphasis Panel, AREA (R15) grant reviews; National Institute for Digestive, Diabetes and Kidney Diseases (NIDDK); April 2014

Special Emphasis Panel, Program Project Review; National Institute for Digestive, Diabetes and Kidney Diseases (NIDDK); April 2013

Scientific Merit Review Board for Gastroenterology, Department of Veterans Affairs, Veterans Health Administration (ad hoc); 11/12

Clinical and Integrative Molecular Gastroenterology study section (ad hoc); 1/11, 10/11; NIDDK

Italian Ministry of Health (in conjunction with the NIH); 9/13, 9/10, 9/09

National Institute of General Medical Sciences (NIGMS); 12/09

Czech Science Foundation; 9/09

Pennsylvania Department of Health (2/09, 1/08, 6/07, 1/06)

Superfund Basic Research and Training Program, Special Emphasis Panel/Scientific Review Group, NIEHS; 9/07

*Agency for Science, Technology and Research's (A*STAR) Biomedical Research Council (BMRC), Singapore.*

Processes Structures & Integrity Program at the National Science Foundation. 3/07

*Special Emphasis Panels, Program Projects; NIDDK, NIH (12/06, 10/05).
Functional and Regulatory Cluster of the National Science Foundation. 10/05*

Gastroenterology VA Merit Review; 2000-2001 (ad hoc).

Israel Science Foundation (4/98).

EDITORIAL BOARDS

American Journal of Physiology: Gastrointestinal and Liver Physiology; June 2015-present

Journal of Biological Chemistry; July 2014-present

Journal of Nutrition; May 2010-July 2020

PLOS One; May 2013-2017

EDITORSHIPS

Editor: *Molecular, Genetic, and Nutritional Aspects of Major and Trace Minerals* (Elsevier Inc.)
Contains 44 chapters on the essential minerals. ISBN: 978-0-12-802168-2. (2017).

SERVICE TO THE PROFESSION

Reviewer of book chapter entitled, *An Evidenced-based Approach to Iron chelation Therapy in Transfusion-dependent Thalassemia Patients: Present Trends and Future Scenarios*; In: *Frontiers in Clinical Drug Research- Haematology*; Bentham Science Publishers (Feb. 2021)

Award Jury, *2021 Mead Johnson Award*; American Society of Nutrition Foundation (Feb. 2021)

Invited Reviewer of *Copper: Dietary Supplement Fact Sheet* for practicing health professionals. Office of Dietary Supplements, National Institutes of Health (Feb. 2019)

Councilor (elected) for the *Basic & Clinical Intestinal Disorders* section of the American Gastroenterological Association (2018-2020)

Councilor (elected) for the *Nutrition & Obesity* section of the American Gastroenterological Association (2018-2020)

Nominating Committee (elected) for the *Obesity, Metabolism and Nutrition* section of the American Gastroenterological Association (2015-2017).

Moderator, Research Forum entitled *Vitamin and Nutrient Absorption and Metabolism*; Digestive Disease Week Scientific Meeting- Washington D.C.; May 2015.

Abstract Review Committee Chair, *Vitamins and Micronutrients: Basic and Clinical; Obesity, Metabolism & Nutrition* Section of the AGA Institute Council. 2016-2021.

Nominating Committee; American Physiological Society, GI & Liver section; 2014-2016.

Advisory Committee; Nutrient Gene Interactions Research Interest Section, American Society for Nutrition; 2014-2016

Co-Chair, Research Forum entitled *Nutrient Digestion, Absorption, and Metabolism - Digestive Disease Week Scientific Meeting- Orlando, FL*; May 2013.

Science of Nutrition Exam Development Committee; Excelsior College, Albany, NY; 2012-2013
Nutrition Advisory Board; 2011-present; John Wiley and Sons, Inc.

Secretary (elected), International Society for Trace Element Research in Humans (ISTERH)

Co-Organizer of the *15th International Meeting on Trace Elements in Man and Animals* to be held in Orlando, FL; 2014.

Councilor (elected) for the *Nutrition & Obesity* section of the American Gastroenterological Association (2011-2016).

Co-Chair of the Scientific Program and Abstract Selection Committees for the *11th International Society for Trace Element Research in Humans (ISTERH)* meeting; Antalya, Turkey; Fall 2011.

Chair and organizer of a Research Symposium entitled *Trace Mineral Regulation of Gene Expression* for the American Society of Nutrition; Experimental Biology, Anaheim, CA; 4/10

Chair, East Coast Iron Club (<http://www.eastcoastironclub.org/>); 2009-2012.

Chair, *Programming Committee*; American Physiological Society, Gastrointestinal/Liver Section. April 2008- April 2011.

Member of the *Steering Committee*; American Physiological Society, Gastrointestinal/Liver Section. April 2008- April 2011.

Co-Chair and organizer of a Research Symposium entitled *Hepcidin Regulation of Iron Homeostasis*; Experimental Biology 2008, San Diego, CA.

Invited Chair of session on “Interaction of Iron with Other Metals”. *East Coast Iron Club Annual Meeting*. Gainesville, FL; 11/07.

Chair and Organizer of a Research Symposium entitled *Molecular Mechanisms of Intestinal Iron Transport* held at Experimental Biology 2006, San Francisco, CA (4/06).

Member of the *GI Programming Committee* of the American Physiological Society, GI section. (2005-2008).

Chair and Organizer - Research Symposium entitled *Animal Models of GI-Related Disease- Digestive Disease Week Scientific Meeting-* Orlando, FL; 5/03

Chair and Organizer- Research Symposium entitled *Animal Models of Gut, Liver and Pancreas Development-* Digestive Disease Week Scientific Meeting, San Francisco, CA; 5/02

Invited Moderator- Research Forum entitled *Intestinal Gene Expression-* Digestive Disease Week Scientific Meeting, Atlanta, GA; 5/01

Appointed Councilor for the *Growth, Development and Aging* section of the American Gastroenterological Association (2000-2003).

Abstract reviewer- *Growth, Development and Nutrition* section of the American Gastroenterological Association for the Digestive Disease Week annual meeting; 2000-2002.

AD HOC REVIEWER (2000-present): Numerous journals

American Journal of Physiology: Cell Physiology
American Journal of Physiology: GI Liver Physiology
American Journal of Physiology: Regulatory, Integrative and Comparative Physiology
Applied and Environmental Microbiology
Behavioural Brain Research
Biochemical Journal
Biochimica et Biophysica Acta
Biological Trace Element Research
Biometals
Blood
British Journal of Nutrition
Cellular & Molecular Gastroenterology and Hepatology
Digestive Disease and Sciences
Gastroenterology
Hematologica
Hepatology
Journal of Cellular Biochemistry
Journal of Clinical Investigation
Journal of Inorganic Biological Chemistry
Journal of Neurochemistry
Journal of Nutritional Biochemistry
Journal of Trace Elements in Medicine and Biology
Metallomics
Molecular and Cellular Biology
Nanotoxicology
Nutrients
Pediatric Research
Pflueger's Archives (the European Journal of Physiology)
Physiological Genomics
Prostaglandins, Leukotrienes & Essential Fatty Acids
Scientific Reports
Swiss Medical Weekly
Toxicological Sciences

SERVICE TO THE PUBLIC

Faculty Mentor for Kyra E. Swatko, High school student from Briarcliff High School, NY.
Participant in the Science Research Program (summer research in Dr. Collins' lab); March 2016-
October 2017

Science Fair Judge; Lincoln Middle School; Gainesville, FL; Fall 2009, 2010, 2011

Taught *Biotechnology and Genetic Therapy* for the Arizona Senior's Academy and the University of Arizona Foundation; Tucson, AZ; Spring 2000

Invited talk on Human Genome Project for *Saddlebrook Nerds* civic group, Tucson, AZ; 11/00

UNIVERSITY AND SCHOOL SERVICE

Invited Presenter/Discussant, Institute of Food and Agricultural Sciences (IFAS) Research Forum focused on the research portion of tenure and promotion packets; University of Florida, July 2020

Honorary Degrees & Distinguished Awards Committee, University of Florida (August 2019-present)

Chair, Tenure, Permanent Status and Promotion Committee, Institute of Food and Agriculture Sciences (IFAS), University of Florida (2020)

Tenure, Permanent Status and Promotion Committee, Institute of Food and Agriculture Sciences (IFAS), University of Florida (2019, 2020)

Organizer and Team Member, GI Team tasked with developing an application from UF for a Digestive Diseases Research Core Center (NIDDK); Division of Research Program Development, Office of Research, University of Florida (Dec. 2018-present)

Working Group Participant (invited); Division of Research Program Development, Office of Research. University of Florida; Purpose: To examine the services the Office of Research provides in identifying and pursuing external funding opportunities (Oct. 2018-present)

Director (elected), Nutritional Sciences Interdisciplinary Doctoral Program; University of Florida (May 2017- April 2020)

Chair (elected), Senate Committee on Research and Scholarship (SCORS); University of Florida (Sept. 2017-May 2018)

Member (elected), Senate Committee on Research and Scholarship (SCORS); University of Florida (Sept. 2017-May 2020)

Faculty Senate Steering Committee; University of Florida (Sept. 2017-May 2018)
University of Florida Faculty Senate (elected); 2015-2018

Graduate Coordinator (elected), Nutritional Sciences Interdisciplinary Doctoral Program; University of Florida (Feb 2014-May 2017)

Member of the *International Awards Selection Committee*; Institute for Food and Agricultural Sciences (IFAS), University of Florida, 6/09.

Abstract Selection Committee, Warren Perry Lecture Series; School of Public Health, University at Buffalo; 9/07

Member of the *Graduate Executive Committee* for the Nutritional Sciences Graduate Program in the Department of Nutritional Sciences, University of Arizona. (12/04- 11/07; served until 7/05)

Elected member of the *Dean's Research Council*; College of Medicine, University of Arizona. (7/04-6/09; served until 7/05)

Interviewer for medical school applicants applying to the University of Arizona, College of Medicine (Fall 1998-7/05)

DEPARTMENTAL SERVICE

Chair, Graduate Committee; Food Science and Human Nutrition Department, University of Florida (2020-2023)

Chair, Search & Screen committee, Assistant Professor of Nutritional Sciences; Food Science & Human Nutrition Department, University of Florida (Feb. 2021)

Diversity, Equity and Inclusion committee, FSHN Department, University of Florida (Feb. 2021-present)

Chair, Search & Screen committee; Assistant Professor of Nutritional Sciences; Food Science & Human Nutrition Department, University of Florida (Oct. 2017-March 2018)

Graduate Committee; Food Science and Human Nutrition Department, University of Florida (2014-2019)

Undergraduate Committee; Food Science and Human Nutrition Department, University of Florida (2012-2013)

Departmental Bylaws Committee; Food Science and Human Nutrition Department, University of Florida; 2/10

Departmental Safety Officer; Food Science and Human Nutrition Department, University of Florida (2009-present).

Faculty Search Committee Member, Department of Exercise and Nutrition Sciences, University at Buffalo (12/07, 3/06, 12/05)

Appointed member of the *Graduate Affairs Committee*, Department of Exercise and Nutrition Sciences, University at Buffalo- SUNY (11/05-7/06)

Member of the *Pediatrics Research Committee* (10/99-7/05)

Organizer of a monthly journal club, which focused on *Transgenics and Gene Therapy*
Participants were from many departments at the University of Arizona medical campus as well as from basic science departments from main campus (1998-2002)

TEACHING ACTIVITIES

University of Florida

Minerals in Nutrition (HUN6356); required course for Nutritional Sciences Master's and doctoral students; 40% of course (3 credits; 20 contact hours); Spring 2021.

Nutrition and Metabolism (HUN4221); required "capstone" course for senior-level Nutritional Sciences undergraduate students (3 credits; 45 contact hours) Fall 2020.

Nutritional Aspects of Carbohydrates (HUN6305); required course for Nutritional Sciences Master's and doctoral students (3 credits; 45 contact hours) Spring 2020.

Nutrition and Metabolism (HUN4221); required "capstone" course for senior-level Nutritional Sciences undergraduate students (3 credits; 45 contact hours) Fall 2019.

Minerals in Nutrition (HUN6356); required course for Nutritional Sciences Master's and doctoral students; 40% of course (3 credits; 20 contact hours); Spring 2019.

Nutrition and Metabolism (HUN4221); required "capstone" course for senior-level Nutritional Sciences undergraduate students (3 credits; 45 contact hours) Fall 2018.

Nutritional Aspects of Carbohydrates (HUN6305); required course for Nutritional Sciences Master's and doctoral students (3 credits; 45 contact hours) Spring 2018.

Nutrition and Metabolism (HUN4221); required "capstone" course for senior-level Nutritional Sciences undergraduate students (3 credits; 45 contact hour); Fall 2017.

Minerals in Nutrition (HUN6356); required course for Nutritional Sciences Master's and doctoral students; 40% of course (3 credits; 20 contact hours); Spring 2017.

Nutrition and Metabolism (HUN4221); required "capstone" course for senior-level Nutritional Sciences undergraduate students (3 credits; 45 contact hours) Fall 2016.

Nutritional Aspects of Carbohydrates (HUN6305); required course for Nutritional Sciences Master's and doctoral students (3 credits; 45 contact hours) Spring 2016.

Nutrition and Metabolism (HUN4221); required "capstone" course for senior-level Nutritional Sciences undergraduate students (3 credits; 45 contact hours) Fall 2015.

Minerals in Nutrition (HUN6356); required course for Nutritional Sciences Master's and doctoral students; 40% of course (3 credits; 20 contact hours); Spring 2015.

Nutritional Aspects of Carbohydrates (HUN6305); required course for Nutritional Sciences Master's and doctoral students; 40% of course (3 credits; 20 contact hours); Fall 2014.

Fundamentals of Human Nutrition (HUN2201) for undergraduate students- required course for Food Science, Nutrition, Nursing and other majors (3 credits; 50 contact hours); Spring 2009-Spring 2014 (11 times); average enrollment ~250 students.

Minerals in Nutrition (HUN6356); required course for Nutritional Sciences Master's and doctoral students; 5 lectures; (3 credits; 10 contact hours); Spring 2013.

Faculty mentor for undergraduate volunteers; Fall 2009-2014.

Faculty mentor for 3 undergraduate students doing Honor's Theses at the University of Florida Fall 2009-2011.

Two lectures on copper homeostasis in *Minerals in Nutrition* (HUN6356) for Nutrition graduate students (3 credits; 5 contact hours); Spring 2009 and 2011.

University at Buffalo

Nutrition Seminar (NTR630)/*Research Seminar* (ES539) for Nutritional Science and Exercise Science graduate students (1 credit; 15 contact hours); Spring 2008 (38 students), Fall 2007 (33 students)

Eleven lectures in *Vitamins and Minerals* (NTR501) on electrolytes and major and trace minerals (3 credits; 20 contact hours; 25-35 students); Spring 2008, 2007, 2006

Nutrients and Gene Expression (NTR620) for nutritional science, exercise science and other graduate students. (2 credits; 30 contact hours); Spring semester; 2008 (9 students), 2007 (7 students), 2006 (14 students)

Supervising one student taking Independent Study (NTR499; 2 credits; 25 contact hours) and one student taking Selected Readings (NTR676; credits; 25 contact hours); Spring 2008

Four lectures in *Nutrition and Health* (NTR503) on major and trace minerals (3 credits; 6 contact hours; 25-35 students); Fall 2007, 2006, 2005

Supervised 2 students that took NTR690, Independent Study (1 credit each; 30 contact hours); Summer 2007, 2006

Directing the *Nutrition Seminar* (NTR630) for nutritional sciences graduate students (1 credit; 15 contact hours; 10-16 students); Spring 2007, Fall 2006, 2005

Supervising one student who took NTR675, Research Project in Nutrition (1 credits; 10 contact hours), and NTR 676, Selected Readings (1 credits; 10 contact hours); Spring 2007, 2006

University of Arizona

Membrane Transport lectures (7 total) for *Molecular and Cellular Physiology* (PSIO 503) for the Department of Physiology at the University of Arizona (12 contact hours); 2003- 2005

Gastrointestinal and Respiratory System lectures (8 total) for *Physiology for Biomedical Engineering* (BME 511) for the Department of Biomedical Engineering at the University of Arizona (10 contact hours); Spring 2002

Faculty Mentor, Minority Access to Research Careers (MARC) Program, University of Arizona; Tucson, AZ; 7/02- 7/05

Membrane Transport lectures (4 total) for *Molecular and Cellular Physiology* (PSIO 503) for the Department of Physiology at the University of Arizona (6 contact hours); 2001, 2002

Faculty Mentor, Graduate Committee on Nutritional Sciences, University of Arizona; Tucson, AZ; 10/01-7/05

Affiliate Faculty Member/Graduate Mentor; Physiological Sciences Interdisciplinary Graduate Program, University of Arizona; Tucson, AZ; 5/00- 7/05

Discussion Leader for *Biochemistry* for majors (BIOC 462a) for the Department of Biochemistry at the University of Arizona (20 contact hours); Fall 2000

Taught 2 sections of *Careers in Math and Science for Minority Professionals* (course #BIOC195e) for the New Start Summer Program at the University of Arizona (30 contact hours/summer); 1998-2005

Faculty sponsor for students taking the Department of Biochemistry's *Honors Thesis* (BIOC 498H and in other Departments) at the University of Arizona; 1998-2004

Faculty mentor for National Merit Scholars Program student, University of Arizona; 1998-2001

Faculty mentor for high school student participating in the *NIH Disadvantaged High School Student/K-12 Science Teacher Research Program*; 1997-2000

Faculty mentor and financial supporter for >15 undergraduate students that participate in the *Undergraduate Biology Research Program* at the University of Arizona; 1996-2005

Faculty sponsor for students taking *Honors Independent Study* (Departments of Microbiology, Molecular and Cellular Biology and Biochemistry) at the University of Arizona; 1996-2004

Taught *Biotechnology: Genes For Hire* (course #BIOC195b) for the Department of Biochemistry at the University of Arizona (30 contact hours/semester); Fall and Spring semesters 1995-2001

RESEARCH ACTIVITIES

University of Florida

PAST POSTDOCTORAL TRAINEES

Shireen R. L. Flores, Ph.D.

Xiaoyu Wang, Ph.D.

Jung-Heun Ha, Ph.D.

Calgar Doguer, Ph.D.

Sukru Gulec, Ph.D.

CURRENT STUDENTS:

Yang Yu, Nutritional Sciences Ph.D. student; Dissertation Director and Major Professor, University of Florida; enrolled 2017

Jennifer Lee, Nutritional Sciences Ph.D. student; Dissertation Director and Major Professor, University of Florida; enrolled 2018

Pearl Ebea, Nutritional Sciences Ph.D. student; Dissertation Director and Major Professor, University of Florida; enrolled 2019

Sean Zhu, Nutritional Sciences M.S. student; Thesis Director and Major Professor, University of Florida; enrolled 2020

Rufus Theophilus, Nutritional Sciences Ph.D. student; Dissertation co-Director and co-Major Professor, University of Florida; enrolled 2020

FORMER STUDENTS:

Regina Woloshun, Nutritional Sciences Ph.D. candidate; Dissertation Director and Major Professor, University of Florida; enrolled 2016

Savannah Nelson, Undergraduate student volunteer (Nutritional Sciences Major, Honors), University Scholar's Program awardee; Honor's Thesis advisor; 2017- May 2019

Shireen Flores, Nutritional Sciences; Ph.D. candidate; Dissertation Director and Major Professor, University of Florida; enrolled 2013

Xiaoyu Wang, Nutritional Sciences; Ph.D. candidate; Dissertation Director and Major Professor, University of Florida; enrolled 2013

Tao Wang, visiting doctoral student from Sichuan University in Chengdu, China (2015-2017)

Ping Xiang, visiting doctoral student from Nanjing University in Nanjing, China (2016-2017)

Calgar Doguer, Nutritional Sciences; Ph.D. candidate; Dissertation Director and Major Professor, University of Florida; Graduated Fall 2016

Jung-Heun Ha, Nutritional Sciences; Ph.D. candidate; Dissertation Director and Major Professor, University of Florida; Graduated Fall 2016

Shaomin Zhao, Nutritional Sciences; M.S. candidate; Thesis Director and Major Professor, University of Florida; Graduated Spring 2016

Han Yi, Nutritional Sciences; M.S. candidate; Thesis Director and Major Professor, University of Florida; Graduated Spring 2015

Liwei Xie, Ph.D.; Nutritional Sciences graduate student; Dissertation Director and Major Professor, University of Florida; Graduated spring semester 2013

Sukru Gulec, Ph.D.; Nutritional Sciences graduate student; Dissertation Director and Major Professor, University of Florida; Graduated spring semester 2013

Lingli Jiang, Ph.D.; Nutritional Sciences graduate student; Dissertation Director and Major Professor, University of Florida; Graduated spring semester 2013

Yan Lu, Ph.D.; Nutritional Sciences graduate student; Dissertation Director and Major Professor, University of Florida; Graduated fall semester 2012

Changae Kim, Nutritional Sciences; M.S. candidate; Thesis Director and Major Professor, University of Florida; Graduated in 2011

University at Buffalo

Yan Lu, Nutrition; M.S. candidate; Thesis Director and Major Professor, University at Buffalo; Fall 2007-2008

Zhaoyi Chen, Biochemistry, M.S. candidate; Thesis Director and Major Professor, University at Buffalo; Fall 2007-2008

Kami Sobey, Nutrition; M.S. Candidate; Thesis Committee Member, University at Buffalo; 2007-2008

Suresh Pendem, Exercise Science (Nutrition) Ph.D. candidate; Dissertation Committee member; University at Buffalo; 2007-2008

Abiy Eshetu, Exercise Science (Nutrition) Ph.D. candidate; Dissertation Director and Major Professor, University at Buffalo; 2006-2008

Michael Valerio, M.S.; Nutrition; Thesis Committee Member, University at Buffalo; 2006-2007

Hao Long, M.S.; Nutrition; Thesis Committee Member, University at Buffalo; 2005-2006

Lana Burl, M.S.; Nutrition; Thesis Committee Member, University at Buffalo; 2005-2006

Jamie McCullough, M.S.; Graduate Advisor, University at Buffalo; 2005-2006

University of Arizona

Renu Stephen, M.S.; Graduate Advisor, Nutritional Sciences Ph.D. Program; University of Arizona; 2004-2005

Jennifer Ravia, M.S.; Graduate Advisor; Nutritional Sciences Ph.D. Program; University of Arizona; 2004-2005

Christina Cumming, M.S.; Thesis Advisor; Physiological Sciences Graduate Program at the University of Arizona; 2005

Hua Xu, Ph.D.; Dissertation Committee Member; Physiological Sciences Graduate Program at the University of Arizona; 2004

Jason Drees, M.S.; Thesis Advisor; Physiological Sciences Graduate Program at the University of Arizona; 2004

Kayo Arima, Ph.D.; Dissertation Committee Member; Nutritional Sciences Graduate Program at the University of Arizona; 2003

PATENTS AND TECHNOLOGY LICENSES

Biological Invention Disclosure UF#-17354 entitled, "Hepcidin (Hamp) knockout Sprague Dawley Rat"

Biological Invention Disclosure UF#- 17549 entitled, "Formulation Containing Amino Acids to Increase Iron Absorption in the Small Intestine".

U.S. Provisional Application No. 62/776,645; Filed: December 7, 2018; Sadasivan Vidyasagar, James F. Collins, Regina Woloshun. “Compositions That Enhance or Reduce Iron Absorption and Methods of Use Thereof.”

Pending Patent Application (filed 12/6/19)- based upon above provisional application- “Compositions That Enhance Iron Absorption and Methods of Use Thereof.” G.T. Ref.: 174821-010203/PCT2 (Greenberg-Traurig internal reference).

Pending Patent Application (filed 12/6/19)- based upon above provisional application- “Compositions That Reduce Iron Absorption and Methods of Use Thereof.” G.T. Ref: 174821-010202/PCT (Greenberg-Traurig internal reference).

CURRENT GRANT SUPPORT

2R01DK074867-11; National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); 5/1/18-2/28/23; \$2,475,292 (total costs). **Role, PI**; 2.4 Months Effort; Title: Molecular Mechanisms of Intestinal Metal Ion Transport During Iron-Deficiency.

1R01DK109717; National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); 4/1/16-3/31/21; \$2,500,000 (total costs). **Role, PI**; 2.4 Months Effort; Title: Divalent Metal-ion Transporter 1 as a Therapeutic Target to Optimize Intestinal Iron Transport.

2R01GM105893-07; National Institute of General Medical Sciences (NIGMS); 8/1/18-7/31/22; \$2,124,561 (total costs [estimated]); **Role, Co-Investigator**; 0.5 Months Effort; Title: Chronic Stress and Anemia Recovery Following Major Trauma. (PI: Alicia M. Mohr; Dept. of Surgery, University of Florida)

United States Department of Agriculture Research Award; 3/1/19-3/1/22; \$346,770 (total costs); **Role, Co-PI**; 0.3 Months Effort; Title: Synergistic Interactions Between Muscadine Wine and Gut Microbiota in Alleviating Intestinal Inflammation and Barrier Dysfunction. (PI: Liwei Gu; FSHN Dept., University of Florida)

PAST GRANT SUPPORT

La Jolla Pharmaceuticals; Research Agreement; 10/15/18-8/15/19; \$112,214 (total costs); **Role, PI**; 0.5 Months Effort; Title: Therapeutic intervention study with proprietary human hepcidin using our rat model of hereditary hemochromatosis, the *Hamp* KO rat.

2R01DK074867-07; National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); 3/1/13-2/28/18; \$1,304,457 (total costs); **Role, PI**; 2.4 Months Effort; NIH, NIDDK; Title: Molecular Mechanisms of Intestinal Metal Ion Transport During Iron-Deficiency

1R01 DK074867; National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); 7/1/07-6/30/12; \$1,468,461 (total costs); **Role, PI**; 2.4 Months Effort; Title: Molecular Mechanisms of Intestinal Metal Ion Transport During Iron-Deficiency.

Kelatron Corp; Research Contract; 7/14-9/15; \$40,000 (total costs); **Role: PI**; 0.5 months effort

Anime Inc.; Research Contract; 2/14-10/15; \$50,000 (total costs); **Role: PI**; 0.5 months effort
LSG Partners (Water Ion solutions); Research Contract # 00079377 Project # 00090568; 9/10/10-3/15/11; \$23, 835 (total costs); **Role: PI**; 0.5 months effort

Competitive *Research Innovation Award*; Institute for Food and Agricultural Sciences (IFAS). **Role, PI**; IFAS, Univ. of Florida; 9/1/09-8/31/10; \$50,000; Title: Lipid Signaling and Intestinal Epithelial Cell Proliferation and Differentiation During Iron Deficiency

1 R21 DK068349; **Role, PI**; 30% effort; NIH, NIDDK; 7/1/04-6/30/07 (with one year no cost extension); \$250,000 direct costs.; Title: Intestinal Iron Transport in Iron Deficiency Anemia.

2R01 DK412174; **Role- Co-PI** (F. K. Ghishan, PI); 25% effort; NIH, NIDDK; 9/1/02 to 8/31/07; \$1,200,000 direct costs; Title: Development of Intestinal Ion Transport

R37 DK33209; **Role- Co-PI** (F. K. Ghishan, PI); 25% Effort; NIH, NIDDK; 12/1/02-11/30/07; \$1,125,000 direct costs; Title: Development of Intestinal Transport of Calcium and Phosphate.

3P50A000008-03S; **Role- Co-PI** (P. R. Kiela, PI); 20% effort; 7/01/01-6/30/04; NIH/Inst. for Complementary and Alternative Medicine; \$670,000 direct costs; Title: Inflammatory Bowel Disease- A Novel Botanical Approach

Arizona Disease Control Research Commission Research Grant; **Role- PI**; 20% Effort; 7/1/00-6/30/03; \$148,500; Title: Characterization of the Effect of Nicotine on the Lung Sodium-Phosphate Transporter (NaP_i-IIB)

Dean's Research Council Grant- University of Arizona College of Medicine; **Role- PI**; 5% Effort; 7/1/00-6/30/01; \$15,000; Title: Regulation of NHE2 and NHE4 in the Renal Medulla by Hyperosmolality

Beginning-Grant-in-Aid, American Heart Association; **Role- PI**; 15% Effort; 7/1/99-6/30-01; \$60,000. Title: Characterization of a Novel Hyperosmolality Response Element (OsmoE) in the Rat Sodium-Hydrogen Exchanger-2 (NHE2) Gene

AZ Kidney Foundation Research Grant; **Role- PI**; 5% Effort; 5/1/99-4/30/01; \$19, 200
Title: Generation of Transgenic Mice to Investigate In Vivo Regulation of the Renal Sodium-Phosphate Transporter (NPT) Gene in Normal and Hyp Mice

W. M. Keck Foundation Grant; **Role- Director**, Keck Bio-Imaging Facility and Project Coordinator; 10% Effort; 7/1/98- 6/30/01; \$1,110,000

Small Grants Program supported by the Office of the Vice President for Research, University of Arizona; **Role- PI**; 5% Effort; 6/97-5/99; \$4,500; Title: Expression of Apical Sodium-Hydrogen Exchangers (NHE) in Intestinal Epithelial Cells