CURRICULUM VITAE

PERSONAL

NAME:	**Natalia I. Krupenko**
OFFICE ADDRESS:	University of North Carolina at Chapel Hill Department of Nutrition UNC Nutrition Research Institute, 500 Laureate Way, Kannapolis NC 28081
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E-MAIL ADDRESS:	natalia_krupenko@unc.edu

EDUCATION

1999	International School of Structural Biology and Magnetic Resonance, NATO Advanced Study Institute, 4-th course: "Dynamics, structure and function in biological macromolecules".
1992-1994	The Rockefeller Foundation Fellow in Population Sciences, Center for Reproductive Biology Research, Vanderbilt University School of Medicine, Nashville, TN.
1987	Institute of Bioorganic Chemistry, Byelorussian Academy of Sciences, Ph.D. in Bioorganic Chemistry, Thesis title: "Specific Binding of Sex Steroid Hormones By Human Sex Steroid Binding Globulin" (Advisor Prof. Oleg A. Strel'chyonok)
1980-1983	Graduate School, Institute of Bioorganic Chemistry, Byelorussian Academy of Sciences, Minsk, USSR
1975-1980	Byelorussian State University, Minsk, USSR, B.S. in Biochemistry

PROFESSIONAL EXPERIENCE

2020-Present	Associate Professor, Department of Nutrition, NRI UNC-CH
2014-2020	Assistant Professor, Department of Nutrition, NRI UNC-CH
2010-2014	Assistant Professor, Dept. Biochemistry & Molecular Biology, MUSC
2000-2010	Research Assistant Professor, Dept. Biochemistry & Molecular Biology, MUSC
1997-1999	Research Instructor, Dept. Biochemistry, Vanderbilt University School of Medicine
1994-1997	Research Fellow, Dept. Biochemistry, Vanderbilt University School of Medicine
1992-1994	Visiting Instructor, Center for Reproductive Biology Research, Vanderbilt University School of Medicine
1990-1992	Senior Staff Scientist, Inst. of Bioorganic Chemistry, Byelorussian Acad. of Sci.
1989-1990	Staff Scientist, Inst. of Bioorganic Chemistry, Byelorussian Acad. of Sci.
1983-1989	Research Associate, Inst. of Bioorganic Chemistry, Byelorussian Acad. of Sci.

HONORS

2012 Advances and Controversies in B-vitamins and Choline Conference, Leipzig, Germany
1-st place Poster Award
1992 The Rockefeller Foundation Fellow in Population Sciences

MEMBERSHIPS

ASN 2014- present
ASBMB 2014 - present

BIBLIOGRAPGY AND PRODUCTS OF SCHOLARSHIP
*****-indicates N. Krupenko's lab trainees/mentees
$-indicates equal contribution (co-first author)

BOOKS AND CHAPTERS

1. **Krupenko N.I.** Folate and Vitamins B_6 and B_{12}. Edited by DeCatarina R., Martinez J.A. and Kohlmeier M. *Principles of Nutrigenetics and Nutrigenomics* 2020, pp.1-8.
2. *****Jeffries K.A., **Krupenko N.I.** Ceramide Signaling and p53 pathways. Edited by Chalfant C.E. and Fisher P.B. *Sphingolipids in Cancer*, 2018, *Adv Cancer Res, 140, Elsevier*, pp. 191-215.

REFEREED PAPERS/ARTICLES

1. You M., Shamseldin H.E., *****Fogle H.M., Rushing B.R., AlMalki R.H., Jaafar A., Hashem M., Abdulwahab F., Abdel Rahman A.M., **Krupenko N.I.**, Alkuraya F.S., Krupenko S.A. (2023) Further delineation of the phenotypic and metabolomic profile of ALDH1L2-related neurodevelopmental disorder. *Clin Genet*. 105(5):488-498. doi: 10.1111/cge.14479.
2. Pelligra A., Mrugala J., Griess K., Kirschner P., Nortmann O., Bartosinska B., Köster A., **Krupenko N.I.**, Gebel D., Westhoff P., Steckel B., Eberhard D., Herebian D., Belgardt B.F., Schrader J., Weber A.P.M., Krupenko S.A., Lammert E. (2023) Pancreatic islet protection at the expense of secretory function involves serine-linked mitochondrial one-carbon metabolism. *Cell Rep*. 42(6):112615. doi: 10.1016/j.celrep.2023.112615.
3. Rushing B.R., *****Fogle H.M., Sharma J., You M., McCormac J.P., Molina S., Sumner S., **Krupenko N.I**., Krupenko S.A. (2022) Exploratory Metabolomics Underscores the Folate Enzyme ALDH1L1 as a Regulator of Glycine and Methylation Reactions. *Molecules*, 27(23):8394. doi: 10.3390/molecules27238394.
4. Sharma J., Rushing B.R., *Hall M.S., Helke K.L., McRitchie S.L., **Krupenko N.I.**, Sumner S.J., KrupenkoS.A. (2022) Sex-Specific Metabolic Effects of Dietary Folate Withdrawal in Wild-Type and Aldh1l1 Knockout Mice. *Metabolites*, 12:454. doi: 10.3390/metabo12050454.
5. Tsybovsky Y., Sereda V., Golczak M., **Krupenko N.I.**, Krupenko S.A. (2022) Structure of putative tumor suppressor ALDH1L1. *Commun Biol.* 10;5(1):3. doi: 10.1038/s42003-021-02963-9. PMCID: PMC8748788.
6. *Barron K, Ogretmen B, **Krupenko N.** (2021) Dietary Folic Acid Alters Metabolism of Multiple Vitamins in a CerS6- and Sex-Dependent Manner. *Front. Nutr.* 8:758403. PMCID: PMC8602897
7. *****Barron K., Ogretmen B., **Krupenko N.I.** (2021) Ceramide Synthase 6 mediates sex-specific metabolic response to dietary folic acid in mice. *J. Nutr. Biochem.* 98:108832. doi: 10.1016/j.jnutbio.2021.108832.
PMCID: PMC8571033.

8. **Krupenko N.I.**, [$]Sharma J., Fogle H.M., Pediaditakis P., *Strickland K.C., Du X., Helke K.L., Sumner S., Krupenko S.A. (2021) Knockout of Putative Tumor Suppressor Aldh1l1 in Mice Reprograms Metabolism to Accelerate Growth of Tumors in a Diethylnitrosamine (DEN) Model of Liver Carcinogenesis. *Cancers* (Basel), 13(13):3219. PMCID: PMC8268287
9. **Krupenko N.I.**, Sharma J., Pediaditakis P., Helke K.L., *Hall M.S., Du X., Sumner S., Krupenko S.A. (2020) Aldh1l2 knockout mouse metabolomics links the loss of the mitochondrial folate enzyme to deregulation of a lipid metabolism observed in rare human disorder. *Hum Genomics* 14(1):41. doi: 10.1186/s40246-020-00291-3.
10. *Barron K., *Jeffries K.A., **Krupenko N.I.** (2020) Sphingolipids and the link between alcohol and cancer. *Chem Biol Interact,* doi.org/10.1016/j.cbi.2020.109058
11. **Krupenko N.I.**, Sharma J., *Pediaditakis P., *Fekry B., Helke K.L., Du X., Sumner S., Krupenko S.A. (2019) Cytosolic 10-formyltetrahydrofolate dehydrogenase regulates glycine metabolism in mouse liver. *Scientific reports*, 322. PMCID: PMC6797707
12. Sarret C., Ashkavand Z., Paules E., Dorboz I., *Pediadidakis P., Sumner S., Eymard-Pierre E., Francannet C., **Krupenko N.I.**, Boespflug-Tanguy O., Krupenko S.A. (2019) Deleterious mutations in ALDH1L2 suggest a novel cause for neuro-ichthyotic syndrome. *Genomic Medicine*, 4:17, PMCID: PMC6650503
13. Krupenko S.A., **KrupenkoN.I.** (2019) Loss of AlDH1L1 folate enzyme confers a selective metabolic advantage for tumor progression. *Chem Biol Interact,* 302:149-155.
14. Krupenko S.A., **Krupenko N.I.** (2018) ALDH1L1 and ALDH1L2 folate regulatory enzymes in cancer. *Adv Exp Med Biol,* 1032:127-143.
15. *Fekry B., *Jeffries K.A., Esmaeilniakooshkghazi A., Szulc Z.M., Knagge K.J., Kirchner D.R., Horita D.A., Krupenko S.A., **Krupenko N.I.** (2018) C_{16}-ceramide is a natural regulatory ligand of p53 in cellular stress Response. *Nat Commun.* 9(1):4149; 1-12. doi: 10.1038.
16. Holmes R.S., *Barron K.A., **Krupenko N.I.** (2018) Ceramide Synthase 6: Comparative Analysis, Phylogeny and Evolution. *Biomolecules,* 8(4); 1-17. pii: E111. doi: 10.3390/biom8040111
17. Khan K., *Pediaditakis P., *Malakhau Y., Esmaeilniakooshkghazi A., Ashkavand Z., Sereda V.V., **Krupenko N.I.**, Krupenko S. A. (2018) CHIP E3 ligase mediates proteasomal degradation of the proliferation regulatory protein ALDH1L1 during the transition of NIH3T3 fibroblasts from G0/G1 to S-phase. *PLoS One,* 13(7); 1-22:e0199699. doi: 10.137.
18. *Fekry B., *Jeffries K.A., Esmaeilniakooshkghazi A., Ogretmen B., Krupenko S.A., **Krupenko N.I.** (2016) *CerS6* is a Novel Transcriptional Target of p53 Activated by Non-Genotoxic Stress, *J Biol Chem*. 291:16586-96.
19. *Fekry B., Esmaeilniakooshkghazi A., Krupenko S.A., **Krupenko N.I.** (2016) Ceramide Synthase 6 Is a Novel Target of Methotrexate Mediating Its Antiproliferative Effect in a p53-Dependent Manner, *PLoS One,* 11(1); 1-15:e0146618, doi: 10.137.
20. **Krupenko N.I.**, Holmes R.S., Tsybovsky Y., Krupenko S.A. (2015) Aldehyde dehydrogenase homologous folate enzymes: Evolutionary switch between cytoplasmic and mitochondrial localization, *Chem Biol Interact*, 234:12-7.
21. Oleinik N.V., Helke K.L., Kistner-Griffin E., **Krupenko N.I.**, Krupenko S.A. (2014) Rho GTPases RhoA and Rac1 mediate effects of dietary folate on metastatic potential of A549 cancer cells through the control of cofilin phosphorylation, *J Biol Chem.* 289, 26383-94.
22. *Prakasam A., Ghose S., Oleinik N.V., Bethard J.R., Peterson Y.K., **Krupenko N.I.**, Krupenko S.A. (2014) JNK1/2 regulate Bid by direct phosphorylation at Thr59 in response to ALDH1L1, *Cell Death Dis.* 5, e1358.
23. **Krupenko N.I.** (2013) Ceramide signaling in cellular adaptation to folate stress, *J Inherit Metab Dis*, 36, Sup. 1, S15.
24. *DebRoy S., *Kramarenko I., Ghose S., Oleinik N.V., Krupenko S.A. and **Krupenko N.I.** (2013) A novel tumor suppressor function of glycine N-methyltransferase is independent of its catalytic activity but requires the nuclear localization, *PLOS One*, 8, (7):e70062, doi: 10.1371.

25. Christensen K.E., Deng L., Leung K.Y., Arning E., Bottiglieri T., Malysheva O.V., Caudill M.A., **Krupenko N.I.**, Greene N.D., Jerome-Majewska L., MacKenzie R.E., Rozen R. (2013) A novel mouse model for genetic variation in 10-formyltetrahydrofolate synthetase exhibits disturbed purine synthesis with impacts on pregnancy and embryonic development, *Human Molecular Genetics*, 22, 3705-3719.
26. *****Hoeferlin L.A., *****Fekry B., Ogretmen B., Krupenko S., **Krupenko N.I.** (2013) Folate Stress Induces Apoptosis via p53- dependent de Novo Ceramide Synthesis and Up-regulation of Ceramide Synthase 6, *J Biol Chem*, 288, 12880-12890.
27. *****Strickland K.C., **Krupenko N.I.**, Krupenko S.A. (2013) Molecular mechanisms underlying the potentially adverse effects of folate, *Clin Chem Lab Med*, 51, 607-616.
28. *****Hoeferlin L.A., Oleinik N.V., **Krupenko N.I.**, and Krupenko S.A. (2011) Activation of p21-dependent G1/G2 arrest in the absence of DNA damage as an anti-apoptotic response to metabolic stress, *Genes and Cancer*, 2, 889-899.
29. Oleinik N.V., **Krupenko N.I.**, and Krupenko S.A. (2011) Methylation of exon 1 of ALDH1L1 is associated with gene silencing in tumors, *Genes Cancer*, 2, 130-139.
30. Carrasco M., Enyedy E.A., **Krupenko N.I.**, Krupenko S.A., Nuti E., Tuccinardi T., Santamaria S., Rossello R., Martinelli A., and Santos M.A. (2011) Novel Folate-Hydroxamate Based Antimetabolites: Synthesis and Biological Evaluation, *Med Chem.* 7, 256-274.
31. Strickland K.C., Holmes R.S., Oleinik N.V., **Krupenko N.I.**, and Krupenko S.A. (2011) Phylogeny and evolution of aldehyde dehydrogenase-homologous folate enzymes *Chem Biol Interact*, 191, 122-128.
32. Strickland K.C., **Krupenko N.I.**, Dubard M.E., Hu C.J., Tsybovsky Y., and Krupenko S.A. (2011) Enzymatic properties of ALDH1L2, a mitochondrial 10-formyltetrahydrofolate dehydrogenase *Chem Biol Interact*, 191, 129-136.
33. Knock E., Deng L., **Krupenko N.I.**, Mohan, R., Wu Q., Leclerc D., Gupta S., Elmore C.L., Kruger W., Tini M., and Rozen R. (2011) Susceptibility to intestinal tumorigenesis in folate-deficient mice may be influenced by variation in one-carbon metabolism and DNA repair. *J Nut. Biochem*, 22, 1022-1029.
34. Oleinik N.V., **Krupenko N.I.**, and Krupenko S.A. (2010) ALDH1L1 inhibits cell motility via dephosphorylation of cofilin by PP1 and PP2a. *Oncogene*, 29, 6233-6244.
35. Marques S.M., Enyedy E.A., Supuran C.T., **Krupenko N.I.**, Krupenko S.A., and Santos M.A. (2010) Pteridine-Sulfonamide Conjugates as Dual Inhibitors of Carbonic Anhydrase and Dihydrofolate Reductase with Potential Antitumor Activity, *Bioorg. and Med. Chem*., 18, 5081-5089.
36. **Krupenko N.I**., Dubard M.E., *****Strickland K.C., *****Moxley K.M., Oleinik N.V., Krupenko S.A. (2010) ALDH1L2 is the mitochondrial homolog of 10-formyltetrahydrofolate dehydrogenase. *J. Biol. Chem.* 285, 23056-23063.
37. *****Strickland K.C., *****Hoeferlin L.A., Oleinik V.N., **Krupenko N.I.**, and Krupenko S.A. (2010) Acyl Carrier Protein-specific 4'-Phosphopantetheinyltransferase Activates 10-Formyltetrahydrofolate Dehydrogenase *J Biol. Cem.* 285, 1627-1633.
38. Ghose S., Oleinik N.V., **Krupenko N.I.**, Krupenko S.A. (2009) 10-formyltetrahydrofolate dehydrogenase-induced c-Jun-NH2-kinase pathways diverge at the c-Jun-NH2-kinase substrate level in cells with different p53 status. *Mol Cancer Res*. 7, 99-107.
39. Celtikci B., Leclerc D., Lawrance A.K., Deng L., Friedman H.C., **Krupenko N.I.**, Krupenko S.A., Melnyk S., James S.J., Peterson A.C., Rozen R. (2008) Altered expression of methylenetetrahydrofolate reductase modifies response to methotrexate in mice. *Pharmacogenet Genomics.* 7, 577-589.
40. Donato H., **$Krupenko N.I.**, Tsybovsky Y., Krupenko S.A. (2007) 10-formyltetrahydrofolate dehydrogenase requires a 4'-phosphopantetheine prosthetic group for catalysis. *J Biol Chem.* 282, 34159-34166.
41. Oleinik N.V., **Krupenko N.I.**, Krupenko S.A. (2007) Cooperation between JNK1 and JNK2 in activation of p53 apoptotic pathway. *Oncogene* 26, 7222-7230.

42. Elmore C.L., Wu X., Leclerc D., Watson E.D., Bottiglieri T., **Krupenko N.I.**, Krupenko S.A., Cross J.C., Rosen R., Gravel R.A., Matthews R.G. (2007) Metabolic derangement in methionine and folate metabolism in mice deficient in methionine synthase reductase. *Mol Genet Metab,* 91, 85-97.
43. Tsybovsky, Y., Donato, H., **Krupenko, N.I**., Davies, C., Krupenko, S.A. (2007) The crystal structure of the carboxyl terminal domain of 10-formyltetrahydrofolate dehydrogenase: implications for the catalytic mechanism of aldehyde dehydrogenases *Biochemistry*, 46, 2917-2929.
44. Santos M.A., Enyedy E.A., Rossello A., Carelli P., **Krupenko N.I.**, Krupenko S.A. (2007) Methotrexate gamma-hydroxamate derivatives as potential dual target antitumor drugs. *Bioorg. Med. Chem.* 15, 1266-1274.
45. Oleinik N.V., **Krupenko N.I.**, *****Reuland S.N., Krupenko S.A. (2006) Leucovorin-induced resistance against FDH growth suppressor effects occurs through DHFR up-regulation. *Biochem Pharmacol.* 72(2), 256-66.
46. Chattopadhyay S., Zhao R., Krupenko S., **Krupenko N.**, Goldman D.I. (2006) The inverse relationship between reduced folate carrier function and pemetrexed activity in a human colon cancer cell line. *Mol Cancer Ther.* 5(2), 438-49.
47. Oleinik N.V., **Krupenko N.I.**, Priest D.G., Krupenko S.A. (2005) Cancer cells activate p53 in response to 10-formyltetrahydrofolate dehydrogenase expression. *Biochem J*. 391(Pt 3):503-11.
48. **Krupenko N.I.**, Wagner C. (1997) Transport of rat liver glycine N-methyltransferase into rat liver nuclei. *J. Biol. Chem.* 272, 27140-27146.
49. Krupenko S.A., Kolesnik O.I., **Krupenko N.I.,** Strel'chyonok O.A. (1995) Organization of the transcortin-binding domain on placental plasma membranes. *Biochim. Biophys. Acta* 1235, 387-394.
50. Krupenko S.A., **Krupenko N.I.,** Danzo B.J. (1994) Interaction of sex hormone-binding globulin with plasma membranes from the rat epididymis and other tissues. *J. Steroid Biochem. Molec. Biol.* 51, 115-124.
51. **Krupenko N.I.,** Avvakumov G.V., Strel'chyonok O.A. (1990) Binding of human sex hormone-binding globulin-androgen complexes to the placental syncytiotrophoblast membrane. *Biochem.Biophys. Res. Commun.* 171 3, 1279-1283.
52. Avvakumov G.V., **Zhuk N.I.,** Strel'chyonok O.A. (1988) On the biological role of the carbohydrate component of human sex steroid-binding globulin. *Biokhimiya* 53, 838-841.
53. Avvakumov G.V., **Zhuk N.I.,** Strel'chyonok O.A. (1986) Subcellular distribution and selectivity of the protein-binding component of the recognition system for sex hormone-binding protein- estradiol complex in human decidual endometrium. *Biochim. Biophys. Acta* 881, 489-498.
54. **Zhuk N.I.,** Avvakumov G.V., Strel'chyonok O.A. (1985) Interactions of sex hormone-binding globulin - steroid complexes with decidual endometrium plasma membranes. *Biokhimiya* 50, 1105-1107.
55. **Zhuk N.I.,** Sviridov O.V., Strel'chyonok O.A., Akhrem A.A. (1983) Spectral effects of steroid binding to human sex hormone-binding globulin. *Dokl. Akad. Nauk BSSR*, 37, 1024-1027.
56. Strel'chyonok O.A., **Zhuk N.I.,** Sviridov O.V., Akhrem A.A. (1982) Molecular aspects of steroid-protein interactions**.** *Izvestiya Acad. Nauk BSSR, Ser.Chim. Nauk* 6, 90-97.

REFEREED UNPUBLISHED ORAL PRESENTATIONS

1. Virtual FASEB Summer Research Conference, 2020, "*Dietary modulation of the pathways driving carcinogenesis in GNMT KO mice*"
2. 12th International Conference on One Carbon Metabolism, B vitamins and Homocysteine, Tarragona, Spain, 2019 "Response of mouse liver metabolome to changes in folate supplementation"
3. 4th International Conference on Alcohol and Cancer, Newport, RI, 2019 *"Sphingolipids and the link between alcohol and cancer"*
4. 59th International Conference on the Bioscience of Lipids, Helsinki, Finland, 2018 *"C_{16}-ceramide modulates p53 function via direct binding to the protein"*

5. 19th International Workshop on the Enzymology and Molecular Biology of Carbonyl Metabolism, Breckenridge, CO, 2018 *"Mitochondrial folate enzyme Aldh1l2 is a critical regulator of metabolic pathways in mammalian cells"*
6. XII Sphingolipid Cub Meeting, Trabia, Sicily, Italy, 2017 "*CerS6 is a key mediator of the ceramide response to dietary folate in mouse liver"*
7. 11th International Conference on Homocysteine & One Carbon Metabolism, Aarhus, Denmark, 2017 "*Metabolic Changes in GNMT knockout mice during Progression from Steatosis to Hepatocellular Carcinoma*"
8. FASEB Summer Research Conference, Steamboat Springs, CO, 2016, *"Untargeted Analysis of Metabolites in the Livers of 3-Month Old GNMT Knockout Mice"*
9. 18-th International Workshop on the Enzymology and Molecular Biology of Carbonyl Metabolism, Girona, Spain, 2016 *"Metabolic Alterations in Mice Lacking Aldh1L2 Folate Enzyme"*
10. 3RD Alcohol and Cancer Conference, Hersonissos, Crete, Greece, 2015, *"Metabolic Cross-Talk: Folate and Sphingolipids".*
11. International Ceramide Conference and Sphingolipid Club Joint Meeting, Cesme, Izmir, Turkey, 2015, *"C_{16}-ceramide is a natural regulatory ligand of p53"*.
12. FASEB Summer Research Conference, Steamboat Springs, CO, 2014 *"Glycine N-methyltransferase: A Multitasking Cellular Regulator".*
13. 9th International Conference on Homocysteine and One Carbon Metabolism, Dublin, Ireland, 2013, *"Ceramide Signaling in Cellular Adaptation to Folate Stress".*
14. FASEB Summer Research Conference, Kolymbari, Crete, Greece, 2012, *"Activation of ceramide pathways as a cellular response to folate stress".*
15. Advances and Controversies in B-vitamins and Choline, International Conference, Leipzig, Germany, 2012, *"A novel function for an old folate enzyme"*. ^#

    ^-1-st place winner

    #-*Chosen and evaluated as exceptional (10) by the Faculty of 1000*
16. FASEB Summer Research Conference, Carefree, AZ, 2010, *"Identification of the interacting partners of Glycine N-methyltransferase".*
17. FASEB Summer Research Conferences, Indian Wells, CA, 2006, *"The putative 10-formyltetrahydrofolate dehydrogenase: a novel mitochondrial folate enzyme".*
18. Fourth Conference for Young Scientists on Bioorganic Chemistry, Tsahkadzor, USSR, 1985, *"Spectral effects of ligand binding to sex hormone-binding globulin".*
19. Third Conference for Young Scientists on Bioorganic Chemistry, Erevan, USSR, 1984, *"Structural requirements for ligand binding to sex hormone-binding globulin".*

INVITED ORAL PRESENTATIONS

1. 2024 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC "NGx in Micronutrient Metabolism"
2. 14th International Ceramide Conference, Charleston, SC, 2023, "*P53-CerS6 Interaction on Endoplasmic Reticulum in Response to Cell Stress"*
3. 2022 Department of Pharmacology, University of Georgia, Athens, GA, *"Restriction of dietary methionine prevents metabolic reprograming in GNMT knockout mice"*
4. 2022 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC *"Nutrient and Genetic Regulation of Methylation Potential"*
5. 2021 Apetite for Life series, Kannapolis, NC "*Eating Healthy: What do we really know about our nutrients?"*
6. 2021 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC *"Nutrient and Genetic Regulation of Methylation Potential"*

7. 2019 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC *"Nutrient and Genetic Regulation of Methylation Potential"*
8. Department of Genetics and Biochemistry, Clemson University, Clemson, SC, *"Integration of ceramide and p53 signaling pathways"*, 2019
9. 2018 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC, *"Nutrient and Genetic Regulation of Methylation Potential"*
10. NIEHS Workshop, UNC NRI, Kannapolis, NC, *"How folate and related metabolic pathways promote health and prevent disease?"* 2018
11. 2017 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC *"Nutrient-Genetic Regulation of Methylation Potential"*
12. Workshop on the role of *ALDH1L2* mutations in a patient with a Sjogren-Larsson-like syndrome, Paris, France, "*Folate dependent methylation and regulatory processes in health and disease*", 2017
13. Workshop on the role of *ALDH1L2* mutations in a patient with a Sjogren-Larsson-like syndrome, Paris, France, "*Metabolic alterations in mice lacking Aldh1l2 folate enzyme*", 2017
14. 2016 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC *"Nutrient-Genetic Regulation of Methylation Potential"*
15. Department of Biochemistry and Molecular Biology, VCU, Richmond, VA *"Stress Signaling by Ceramide: Engaging the p53 Pathway"*, 2015
16. 9th Congress of the International Society of Nutrigenetics and Nutrigenomics, Chapel Hill, NC, 2015, *"Individual Folate Intake Requirements"*.
17. Apetite for Life series, Kannapolis, NC *"Vitamins and Healthy Diet: Balance is the Key"*.
18. COBRE for Lipidomics in Pathobiology Retreat, MUSC, Charleston, SC, 2015, *"CerS6 in stress response".*
19. Department of Nutrition, UNC, Chapel Hill, NC, 2015, *"Genetic Make Up and Nutritional Status: Focus on Folate".*
20. Catalyst Symposium, NCRC, Kannapolis, NC, 2014, *"Cross-Talk Between Folate and Lipid Metabolism".*
21. Department of Nutrition, UNC, Chapel Hill, NC, 2013, "*Molecular aspects of nutrition: metabolic and regulatory function of dietary folate*"
22. UNC Chapel Hill NRI, Kannapolis, NC, 2012, "*Folate regulatory enzymes and cancer*"
23. Lipid Signaling in Cancer Program Retreat, Charleston, SC, 2012, *"Cross talk between the* sphingolipid and folate pathways".
24. MUSC CGMR Program retreat, Charleston, SC, 2011, *"Glycine N-methyltransferase: regulator of cellular proliferation."*
25. Annual COBRE in Lipidomics and Pathobiology Retreat, Charleston, SC, 2011, *"Cross talk between the sphingolipid and folate pathways".*
26. Annual COBRE in Lipidomics and Pathobiology Retreat, Charleston, SC, 2010, *"Cross talk between the sphingolipid and folate pathways".*
27. MUSC Division of Basic Sciences Retreat, Charleston, SC, 2009, *"Nucleic Acid Analysis Facility - A Service Resource Available for Basic and Clinical Research".*
28. Annual COBRE in Lipidomics and Pathobiology Retreat, Charleston, SC, 2009, *"Cross talk between the sphingolipid and folate pathways"*
29. Department of Biochemistry & Molecular Biology, MUSC, Charleston, SC, 1999, *"Nuclear transport of Glycine N-methyltransferase"*
30. Dept. Biochemistry, Vanderbilt University School of Medicine, Nashville, TN, 1997, *"Nuclear Glycine N-methyltransferase"*
31. Center for Reproductive Biology Research, Vanderbilt University School of Medicine, Nashville, TN, 1993, *"Interaction of sex hormone-binding globulin with epididymal plasma membranes".*

REFEREED POSTER PRESENTATIONS/ABSTRACTS

1. 2023 annual Catalyst symposium, NCRC, Kannapolis, NC, "Response of Brain Metabolome to Changes in Dietary Folic Acid Levels in Wildtype and CerS6 Knockout Mice" *Hall M.S.[#], * Barron K., **Krupenko N.I.**
2. 2022 South Eastern Regional Lipid Conference, Asheville, NC, November 13-15, 2022, "Ceramide Synthase 6 Regulates Mouse Brain Metabolome", *Hall M.S.[#], * Barron K., **Krupenko N.I.**
3. 2022 FASEB SRC Folate, Vitamin B12 and One-Carbon Metabolism, Asheville, NC, August 14-19, "Dietary Methionine Restriction Prevents Development of Liver Cancer Driving Metabotype in GNMT KO Mice", *Hall M.S.[#], **Krupenko N.I.**
4. 2022 annual Live Online ASN meeting, June 14-16, " Dietary methionine restriction reverses liver cancer driving metabotype in GNMT KO mice" *Hall M.S.[#], **Krupenko N.I.**
   [#]- Selected for oral presentation in ASN "Diet and Cancer" GEM Forum.
5. 2022 annual Catalyst symposium, NCRC, Kannapolis, NC, "Synergy between C_{16}-ceramide and chemotherapeutics in inhibiting proliferation of cancer cells", *Hall M.S.[#], **Krupenko N.I.**
   [#]- Selected for second prize.
6. 55th annual South Eastern Regional Lipid Conference, November 17-19, 2021, Asheville, NC, "C_{16}-pyridinium ceramide and chemotherapeutics cooperate in suppressing cancer cells growth", *Hall M.S.[#], *Jeffries K., **Krupenko N.I.**
   [#]- Selected for oral presentation.
7. 55th annual South Eastern Regional Lipid Conference, November 17-19, 2021, Asheville, NC, "Liver transcriptome alterations in CerS6 KO mice", *Barron K.[#], **Krupenko N.I.**
   [#]- Selected for oral presentation.
8. Annual ASN meeting (Live on-Line), June 7-10, 2021, "Ceramide Synthase 6 knockout reprograms energy metabolism in mice", *Barron K.[#], **Krupenko N.I.**
   [#]- Selected as a finalist for the Emerging Leaders in Nutrition Science Abstract Recognition Award Program.
9. Annual EB Meeting (Virtual), April 27-30, 2021, "Sphingolipid response to high fat diet feeding differs in liver and plasma", *Barron K., **Krupenko N.I.**
10. 11th International Ceramide Conference (Virtual), April 19-22, 2021"Ceramide Synthase 6 in response to high fat diet: a metabolomics study", *Barron K.[#], **Krupenko N.I.**
    [#]- selected as the best Sphingolipid Biology submitted poster and awarded a talk at the Sphingolipid Biology webinair series on June 28, 2021
11. Annual ASN meeting, June 1-4, 2020, "Dietary folic acid and fat alter metabolism of multiple vitamins in mice", *Barron K., **Krupenko N.I.**
12. 54th annual South Eastern Regional Lipid Conference, November 6-8, 2019, Asheville, NC, "The interaction between C_{16}-Ceramide and p53 in cellular stress response", *Jeffries K.A., **Krupenko N.I.**
13. 54th annual South Eastern Regional Lipid Conference, November 6-8, 2019, Asheville, NC, "CerS6 affects plasma sphingolipid response to both dietary fat and folic acid", *Barron K., **Krupenko N.I.**
14. Interdisciplinary Nutrition Sciences Symposium, July 24-25, 2019, Chapel hill, NC, "The role of dietary fat and folic acid in modulating sphingolipid response and metabolic health in CerS6 KO mice", *Barron K., **Krupenko N. I.**
15. Annual ASN meeting, June 9-12, 2019, Boston, MA, "Response of Liver Metabolome to Dietary Folic Acid Alterations in WT and CerS6 Knockout Mice" *Barron K., **Krupenko N.**
16. Annual EB Meeting, April 6-9, 2019, Orlando, FL, "C16-Ceramide directly binds and activates p53 in cellular stress response", *K.A. Jeffries and **Krupenko N.I.**
17. 53d SERLC, November 7-9, 2018, Cashiers, NC, "Metabolomic Response to dietary folic acid alterations in CerS6 Knockout Mice" *Barron K., **Krupenko N. I**

18. 59th International Conference on the Bioscience of Lipids, September 4 – 7, 2018, Helsinki, Finland, "C_{16}-ceramide modulates p53 function via direct binding to the protein" *K.A. Jeffries and **N.I. Krupenko**
19. FASEB Summer Research Conference "Folic acid, B12 and one carbon metabolism", July 29-August 3, 2018, "Metabolomic characterization of hepatocytes from the wild-type and $GNMT^{-/-}$ mice" **N.I. Krupenko** and *P. Pediaditakis
20. 19th International Workshop on the Enzymology and Molecular Biology of Carbonyl Metabolism, July 17 - 22 2018, Breckenridge, CO, "Mitochondrial folate enzyme Aldh1l2 is a critical regulator of metabolic pathways in mammalian cells" **N.I. Krupenko**, and S.A. Krupenko
21. Annual ASN meeting, June 9-12, 2018, Boston, MA, "Effects of dietary folic acid on sphingolipid metabolism in livers of Ceramide Synthase 6 knockout mice" *Barron K., **Krupenko N. I.**
22. Defining Precision Nutrition Symposium, May 1-2, 2018, Kannapolis, NC "SNPs in enzymes of sphingolipid metabolism as potential regulators of dietary folate response" *Barron K., **Krupenko N. I.**
23. 52-d SERLC, November 8-10, 2017, Cashiers, NC, "Alterations of dietary folate induce sphingolipid response in mouse liver" *Barron K., **Krupenko N.I.**
24. 59-th International Conference on the Bioscience of Lipids, September 10-14, 2017, Zurich, Switzerland "Stress signaling by ceramide: The Role of p53", *Jeffries K., **Krupenko N.I.**
25. 11th International Conference on Homocysteine & One Carbon Metabolism, May 14-18, 2017, Aarhus, Denmark "Metabolic Changes in GNMT knockout mice during Progression from Steatosis to Hepatocellular Carcinoma" **Krupenko N.I.**
26. 51-st SERLC, November 9-11, 2016, Cashiers, NC, "Transcriptional Regulation of Ceramide Synthase 6 by p53" *Fekry B., *Jeffries K.A., Esmaeilniakooshkghazi A., Ogretmen B., Krupenko S.A., **Krupenko N.I.**
27. 3-d International Conference on the Molecular Medicine of Sphingolipids, September 18-23, 2016, French Lick, IN, "Ceramide synthase 6 is a novel target of methotrexate" **Krupenko N.I.**, *Fekry B., Jeffries K.A. *, Esmaeilniakooshkghazi A., Ogretmen B. and Krupenko S.A.
28. FASEB Summer Research Conference "Folic acid, B12 and one carbon metabolism", August 7-12, 2016, Steamboat Springs, CO, "Untargeted Analysis of Metabolytes in the Livers of 3-Month Old GNMT Knockout Mice" **Krupenko N.I.**
29. 4th Annual Catalyst Symposium, April 30, 2015, NCRC, Kannapolis, NC "Ceramide Synthase 6 is a transcriptional target of p53 in cellular stress response" *Fekry B., Esmaeilniakooshkghazi A., Krupenko S.A., **Krupenko N.I.**
30. 2015 Annual ASBMB Meeting, March 28 - April 1, 2015, Boston, MA, "Metabolic alterations in mice lacking a major folate catabolic enzyme", *Fekry B., **Krupenko N.I.** and Krupenko S.A.
31. 7-th International Ceramide Conference, October 20-24, 2013, Montauk, NY, "CerS6-dependent cellular response to folate stress", *Baharan Fekry, *Alexis Hoeferlin, Sergey Krupenko, **Natalia Krupenko.**
32. Advances and Controversies in B-vitamins and Choline, March 5-8, 2012, Leipzig, Germany, "Folate-dependent regulation of cellular motility", Sergey A. Krupenko, **Natalia I. Krupenko**, Natalia V. Oleinik.
33. Advances and Controversies in B-vitamins and Choline, March 5-8, 2012, Leipzig, Germany, "A novel function for an old folate enzyme#" ^**Natalia Krupenko**, *Inga Kramarenko, *Suchandra DebRoy, Sergey Krupenko.
    ^-1-st place winner
    #-*Chosen and evaluated as exceptional (10) by the Faculty of 1000*
34. Annual HCC Research retreat, November 18, 2011, Antiproliferative function of GNMT, a major metabolic regulator of methylation, *Inga I. Kramarenko, *Suchandra DebRoy, Sampa Ghose, **Natalia Krupenko.**

35. 46th Annual SERLC, High Hampton Inn, Cashiers, NC, November 9-11, 2011, Activation of ceramide pathways as a cellular response to folate stress, *L. Alexis Hoeferlin, Sergey A. Krupenko, **Natalia Krupenko.**
36. AACR Special Conference, "Metabolism and Cancer", October 16 -19, 2011, Baltimore, MD, Metabolic effects of ALDH1L1 evoke cell cycle arrest, apoptosis and inhibition of cell motility, Oleinik, N. V., **Krupenko N. I**., Krupenko S.A.
37. Cancer Genes & Molecular Regulation Program Retreat, Hollings Cancer Center, Charleston, SC, September 9-10, 2011, "Metabolic effects of Aldh1l1 evoke cell cycle arrest, apoptosis and inhibition of motility", Sergey Krupenko, **Natalia I. Krupenko**, Natalia V. Oleinik
38. 8th International Conference on Homocysteine Metabolism, Lisbon, Portugal, June 19-22, 2011. Epigenetic silencing of ALDH1L1, a metabolic regulator of cellular proliferation, in cancers. Sergey Krupenko, Natalia Oleinik, **Natalia Krupenko.**
39. 45th Annual S.E.R.L.C., High Hampton Inn, Cashiers, NC, November 11-14, 2010, Ceramides as potential signaling mediators of folate stress. L. Alexis Hoeferlin, Sergey A. Krupenko, **Natalia Krupenko.**
40. FASEB Summer Research Conference "Folic acid, B12 and one carbon metabolism", Carefree, AZ, August 1-6, 2010, Folate regulates actin dynamics and cell motility via dephosphorylation of cofilin. Sergey A. Krupenko, **Natalia I. Krupenko**, and Natalia V. Oleinik.
41. FASEB Summer Research Conference "Folic acid, B12 and one carbon metabolism", Carefree, AZ, August 1-6, 2010, Identification of the interacting partners of Glycine N-methylrtansferase. **Natalia I. Krupenko**, *Suchandra DebRoy, Sergey A. Krupenko.
42. FASEB Summer Research Conference "Folic acid, B12 and one carbon metabolism", Carefree, AZ, August 1-6, 2010, Ceramides as potential signaling mediators of folate stress. *L. Alexis Hoeferlin, **Natalia Krupenko**, Sergey A. Krupenko.
43. 15th International Symposium "Enzymology and Molecular Biology of Carbonyl Metabolism", Lexington, KY, July 6 – 11, 2010: Enzymatic properties of a mitochondrial 10-formyltetrahdyrofolate dehydrogenase (ALDH1L2). *Kyle C. Strickland, **Natalia I. Krupenko**, Marianne E. Dubard, and Sergey A. Krupenko.
44. 101st American Association of Cancer Research (AACR) Annual Meeting, April 17 -21, 2010, Washington DC. Mitochondrial 10-formyltetrahydrofolate dehydrogenase: A novel enzyme in folate metabolism. Marianne E. Dubard, *Kyle C. Strickland, Natalia V. Oleinik, **Natalia I. Krupenko**, Sergey A. Krupenko.
45. Eighth Annual Research Retreat, Holling Cancer Center, MUSC, Charleston, SC, December 5, 2008, "FDH-induced JNK pathways diverge at the JNK substrate level in cells with different p53 status", Sampa Ghose, Natalia V. Oleinik, **Natalia I. Krupenko**, Sergey A.Krupenko
46. XXth International Symposium on Medicinal Chemistry, Vienna, Austria, August 31- September 4, 2008. Novel Aminopteroil-sulfonamide derivatives as inhibitors of dihydrofolate reductase and carbonic anhydrase, with potential anti tumor activity. Sérgio M. Marques, Éva A. Enyedy, Tiziano Tuccinardi, Adriano Martinelli, Claudiu C. Supuran, **Natalia I. Krupenko**, Sergey A. Krupenko and M. Amélia Santos.
47. XXth International Symposium on Medicinal Chemistry, Vienna, Austria, August 31- September 4, 2008. Synthesis and biological evaluation of folic acid derivatives as histone deacetylase inhibitors. M. Amelia Santos, Eva A. Enyedy, Marta Carrasco, **Natalia I. Krupenko**, Sergey A. Krupenko, Elisa Nuti, Tiziano Tuccinardi, Armando Rossello, Adriano Martinelli.
48. FASEB Summer Research Conference "Folic acid, B12 and one carbon metabolism", August 10-15, 2008, Il Ciocco, Lucca, Italy. GNMT, a folate regulated enzyme, suppresses proliferation of cancer cells, Sampa Ghoose, Sergey A. Krupenko, **Natalia I. Krupenko.**
49. 14th international symposium Enzymology and Molecular Biology of Carbonyl Metabolism, July 8-12, 2008, Kranjska Gora, Slovenia, ALDH1L2: a new member of the aldehyde dehydrogenase family with putative function in mitochondria. **Natalia I. Krupenko**, Natalia V. Oleinik and Sergey A. Krupenko.

50. FASEB Summer Research Conference, Indian Wells, CA, August 5-10, 2006, The putative 10-formyltetrahydrofolate dehydrogenase: a novel mitochondrial folate enzyme. **Natalia Krupenko**, Natalia Oleinik, Sergey Krupenko.
51. FASEB Summer Research Conference, Indian Wells, CA, August 5-10, 2006, Crystal Structure of the carboxyl terminal domain of 10-formyltetrahydrofolate dehydroegnase: implications for dehydrogenase catalysis. Yaroslav Tsybovsky, Henry Donato, **Natalia Krupenko,** Christopher Davis, Sergey Krupenko.
52. 13th International Symposium on Chemistry & Biology of Pteridines and Folates, Egmond aan Zee, The Netherlands, June 20-24, 2005, Tumor suppressor effects of 10-formyltetrahydrofolate dehydrogenase. Sergey Krupenko, Natalia Oleinik, **Natalia Krupenko.**
53. 9th World Congress on Advances in Oncology and 7-th International Symposium on Molecular Medicine, Hersonissos, Crete, Greece, October 14-16, 2004. Tumor suppressor activity of FDH, a folate metabolizing enzyme. Sergey Krupenko, Natalia Oleinik, **Natalia Krupenko.**
54. 9th World Congress on Advances in Oncology and 7-th International Symposium on Molecular Medicine, Hersonissos, Crete, Greece, October 14-16, 2004. Antiproliferative effects of folate and methotrexare derivatives possessing metalloproteinase inhibition capabilities as a secon function. Amelia Santos, Eva Enyedy, **Natalia Krupenko**, C.T. Supuran, Andrea Scozzafava, Sergey Krupenko.
55. FASEB Summer Research Conference, Snowmass, CO, August 6-10, 2000. GNMT is an enzyme ubiquitously expressed in rat tissues. **Natalia Krupenko**, Conrad Wagner.
56. 2d International Conference on Molecular Structural Biology, Vienna, Austria, September 10-14, 1997. Side-chains of lysines play a critical role in subunit interactions of the tetrameric GNMT. **Natalia Krupenko,** Conrad Wagner.
57. 75th Annual Meeting of The Endocrine Society, Las Vegas, NE, June 9-12, 1993, Involvement of steroid in the interaction of sex-hormone-binding globulin with epididymal membranes. **Natalia Krupenko**, Sergey Krupenko, Ben Danzo.

ORGANIZATION OF SESSIONS AT CONFERENCES OR MEETINGS

1. FASEB 2024 SRC on Folate, B vitamins and One-carbon Metabolism, Co-Chair, organizing committee.
2. 57th Southeastern Regional Lipid Conference, November 15-17, 2023, Asheville, NC (organizing committee)
3. FASEB 2022 SRC on Folate, B vitamins and One-carbon Metabolism, member of the organizing committee.
4. FASEB 2020 SRC on Folate, B vitamins and One-carbon Metabolism: session on Folate, OCM and Cancer (Chair and organizer).
5. 54th SERLC, November 6-8, 2019, Asheville, NC (Chair & organizer)
6. 53d SERLC, November 7-9, 2018, Cashiers, NC (Co-Chair & organizer)
7. 9th Congress of the International Society of Nutrigenetics and Nutrigenomics, 2015, Chapel Hill, NC (Discussion Session co-chair and organizer)
8. Lipid Signaling in Cancer Program Retreat, 2013, Charleston, SC (Co-Chair & organizer)

TEACHING ACTIVITIES

Courses taught for the past six years

2024 NRI VIP Program, Lecturer (20 students)

2024 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Instructor (60 participants)
2024 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 42 students)

2023 NRI VIP Program, Lecturer (20 students)
2023 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 53 students)

2022 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 50 students)
2022 Teaching "Nutrition coil" in the Foundational Phase of the UNC MD program.
2022 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Lecturer (45 participants)
2021 Teaching "Nutrition coil" in the Foundational Phase of the UNC MD program.
2021 Taught a lecture in NUTR705, fall semester: "Nutritional Recommendations: How Well Do We Know Our Nutrients?"
2021 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 54 students)
2021 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Instructor (60 participants)
2020 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 78 students)
2019 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Instructor (60 participants)
2019 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 49 students)
2018 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Instructor (75 participants)
2018 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 64 students)
2017 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Instructor (75 participants)
2017 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 53 students)
2016 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Instructor (93 participants)
2016 Human Metabolism: Micronutrients (NUTR 620), Director (3 credit hours, 61 students)
2013 Fundamentals of Biomedical Chemistry, Cellular and Molecular Biology, College of Graduate Studies (4 cont. h., 19 students).

Mentoring experience

Mentored post-doctoral fellows:

Keri Barron, Ph.D., 2020 - 2022
Mikyoung You, Ph.D., 2021-2022
Kristen Jeffries, Ph.D., 2015-2020
Peter Pediaditakis, Ph.D., 2015-2016
Baharan Fekry, Ph.D., 2011-2016
Prakasam A., Ph.D., 2011-2014
Inga Kramarenko, M.D., Ph.D., 2011-2012
Suchandra DebRoy, Ph.D., 2008-2010

Mentored graduate students:

Madeline Hall, 2020-present
Ellen Spitz, 2017
Keri Barron, 2016-2020
Stevi Anderson, 2015
Sarah Hurd, MPH Honor thesis, 2015

Kyle Strickland, dissertation "The Cytosolic and Mitochondrial Pathways of 10-Formyltetrahydrofolate Metabolism", 2013, M.D., Ph.D.
Alexis Hoeferlin, dissertation "Regulation of Cell Death Pathways by Folate Metabolism", 2011, Ph.D.
Steve Reuland, dissertation "Structural-Functional Studies of the Folate Enzyme 10-Formyltetrahydrofolate Dehydrogenase Through Site-Directed Mutagenesis", 2006, Ph.D.

Member of 3-person committee for graduate students:

Zhou, Jiayi (1-st year Nutrition graduate student)
Kendra Nelson, 1st & 2d year Nutrition graduate student
Kaylee Kotwis, 2d year Nutrition graduate student.
Evan Paules, 2d year Nutrition graduate student.
Anandita Pal, 3d year Nutrition graduate student.

Dissertation committee member:

Brook Bathon (3-d year Nutrition graduate student), 2024 – present
Halle Fogle, (3-d year Nutrition graduate student), 2023- present
Kendra Nelson (Nutrition graduate student), 2020 - present
Xinruo (Alice) Zhang, Master of Science Thesis title: "Ethnic-, gender- and genotype-specific effects of sugar-sweetened beverage on serum uric acid concentrations and inflammation", 2017.
Kyle Strickland. Thesis title: "The Cytosolic and Mitochondrial Pathways of 10-Formyltetrahydrofolate Metabolism", 2011.

Laboratory rotation graduate student mentoring:

Evan Paules Spring 2018

Mentored undergraduate students:

Clair Gates 2019-2020
Madeline Hall 2019-2020
Kristen Dunkan 2017-2018
Chamath Chandrasekera 2016
Yuryi Malakhau, 2012-2014
Justin Jones, 2006
Rosanna Robertson, 2005
Danielle Gordon, 2005
Lindsey Young, 2004

Member of Nutrition/biochemistry qualifying exam committee for the students:

Zhou, Jiayi, Nutrition 2024
Halle Fogle, Nutrition 2023
Madeline Hall, Nutrition 2022
Kendra Nelson, Nutrition, 2021
Alyssa Cozzo, Nutrition, 2016
Keri Barron, Nutrition, 2016
Emily Rossi, Nutrition, 2016
Kaylee Kotwis, Nutrition, 2018
Evan Paules, Nutrition, 2018
Laetitia Meyrueix, 2018
Melissa Orenduff, 2018
Laura Smith, 2018

Member of nutrition MPH qualifying exam committee:
20 students, 2017

CONTRACTS AND GRANTS

Pending

Grant title: "B-Vitamins and One Carbon Metabolism in Health and Disease".
Role: PI
Agency: NIH, 1R13DK139770-01A1
Funding period: 08/01/2024-07/31/2025
Total direct costs: $49,204

Completed

Grant title: "Ceramide Signaling in the Regulation of Cellular Response to Folate Stress".
Role: PI
Agency: NIH/CA193782-01
Funding period: 04/01/2015-03/31/2021
Total direct costs: $1,143,750

Past

Grant title: "Liver metabolism in CerS6 KO mice"".
Role: PI
Agency: NORC UNC-CH, 5100455
Funding period: 01/01/2015-3/31/2017
Total direct costs: $40,390

Grant title: "Mechanism for development of fatty liver in glycine N-methyltransferase (GNMT) knockout mice".
Role: Co-PI with Dr. R. Coleman
Agency: NRI Collaborative Projects
Funding period: 01/01/2015-06/31/2015
Total direct costs: $99,091

Grant title: "Characterization of the metabolic phenotype of the Aldh1l2 knockout mice".
Role: Co-PI with Dr. B. Bennett
Agency: NRI Collaborative projects
Funding period: 01/01/2015-06/31/2015
Total direct costs: $92, 532

Grant title: "Nuclear Function of Glycine N-methyltransferase".
Role: PI
Agency: NIH/1R21DK083744
Funding period: 07/01/2010-04/31/2013
Total direct costs: $275,000

Grant title: "Cross-Talk between sphingolipid and folate pathways".
Role: Co-PI
Agency: NIH/P20 RR017677, COBRE in Lipidomics and Pathobiology
Funding period: 07/01/2009-06/30/2012
Total direct costs: $259,500

Grant title: "Folate, homocysteine and methyl group metabolism".
Role: Co-PI
Agency: VUMC CA # 7160
Funding period: 01/02/2000-08/31/2003
Total direct costs: $143,387

Grant title: "Study of the GNMT Regulation in Cancer"
Role: PI
Agency: MUSC, ACS IRG
Funding period: 09/01/2000-08/31/2001
Total direct costs: $25,000

Grant title: "Study of the role of GNMT oligomerization in regulation of cellular methylation".
Role: PI
Agency: MUSC, University Research Council
Funding period: 02/07/2000-06/30/2001
Total direct costs: $16,965

SERVICE

Professional

University of North Carolina at Chapel Hill & Gillings School of Global Public Health

2023	UNC SPLENDOR Reviewer
2022 – present	Internal Advisory Committee Member for UNC NORC
2021	Teaching "Nutrition coil" in the Foundational Phase of the UNC MD program.
2021	NCDRC Collaborative Pilot Grant reviewer
2020	Member of the 2020 Search Committee for the position of Director of the UNC NRI
2019	Member of the 2019 Natural Sciences SURF Review Subcommittee (UNC-CH)
2018	Member of the 2018 Natural Sciences SURF Review Subcommittee (UNC-CH)

Nutrition Department - University of North Carolina at Chapel Hill

2022	Nutrition Department Faculty Search Committee Memeber
2021	Member of the Nutrition Department COMPs Examination Committee
2019 - present	Nutrition Doctoral Committee member
2018	Member of the Nutrition Department COMPs Examination Committee
2017 – 2020	Advisor for the Nutrition Graduate Student Organization.
2017	Member of Comprehensive Exam Committee for the MPH degree students
2016	Member of the Nutrition Department COMPs Examination Committee
2015-2019	BSPH Program Committee member

Nutrition Research Institute - University of North Carolina at Chapel Hill

2024	The NCRC Catalyst Symposium Poster Judge
2024	Lecturer in the Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC
2023	The NCRC Catalyst Symposium Poster Judge
2022	Lecturer in the 2022 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC
2021	Lecturer in the 2019 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC
2021	NRI Appetite for Life series, March 31, 2021, "*Eating Healthy: What do we really know about our nutrients?"*.
2019	Lecturer in the 2019 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC
2018	Lecturer in the 2018 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC
2017 - 2018	Member of the Faculty Enrichment Program Committee (NRI)
2017	Member of the organizing committee of the 2017 NRI faculty retreat
2017	Member of the organizing group of the 2017 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC
2016	Member of the organizing group of the 2016 Nutrigenetics, Nutrigenomics and Precision Nutrition Workshop, NRI, Kannapolis, NC
2014-2016	Member of NRI Faculty Search Committees
2014-2016	NRI Seminar Committee member

Professional Societies, National and International service

2024	Member of CDDT Study Section, June 17-18
2024	Member of ZCA1 PCRB-E (M1) R13 Conference Grant Review Panel, March 6
2024	University of Colorado DRC Grant reviewer
2023	Member of CDDT Study Section, June 22-23
2022	National Program for Research of Luxembourg, Grant Reviewer
2022	Reviewer for NCDRC
2022	Member of CDDT Study Section, November 17-18
2022	Member of CDDT Study Section, March 17
2021	Member of CDDT Study Section, March 23
2020	Member of CDDT Study Section, November 19
2020	Member of MCT-2 Study Section
2019	Mail reviewer of the CDDT Study Section
2018 - present	Member of the Vitamins and Minerals RIS of the ASN
2018 - 2019	Abstract reviewer for annual ASN meeting (Vitamins and Minerals RIS)
2015	Organizer of the Work Group Session "Individual Folate Requirements", 9th Congress of the International Society of Nutrigenetics and Nutrigenomics, Chapel Hill, NC
2018	Member of the CDDT Study Section, June 2018
2017	Member of the CDDT Study Section, June 2017
2016	Member of the CDDT Study Section, November 2016

2017 Grant Reviewer for American University of Beirut Collaborative Research Initiative
2017 Grant Reviewer for NWO, the Dutch Research Council.

2019 Chair and Organizer of the 54rd Annual South Eastern Regional Lipid Conference
2018 Co-Chair of the 53rd Annual South Eastern Regional Lipid Conference (SERLC)
2018 Member of the International Scientific Committee for the 19th International Workshop on the Enzymology and Molecular Biology of Carbonyl Metabolism

Editorial

2024 - Frontiers Nutrition Editorial board
2023 – Reviewer for PNAS Nexus, Molecular Pharmacology
2022 - Reviewer for Cancer Letters, CBI, Frontiers Genetics, Metabolites.
2021 - Reviewer for Frontiers in Nutrition, JBC, The Journal of Nutrition, Experimental Lung Research, Chemico-biological Interactions, Cells
2020 – Reviewer for BBA, Chemico-Biological Interactions, Cells,
2019 - Reviewer for PLoS One, BMJ Nutrition, Prevention and Health, Chemico-Biological Interactions.
2018 - Reviewer for Scientific Reports, Chemico-Biological Interactions.
2017 - Reviewer for the Chemico-Biological Interactions, Molecular oncology, Scientific Reports
2016 - Reviewer for Chemico-Biological Interactions
2015 - Reviewer for Chemico-Biological Interactions
2014 - Reviewer for Molecular Cancer, Chemico-Biological Interactions

Faculty engagement

2024 NRI Virtual Internship Program Lecturer

2023 NRI Virtual Internship Program Lecturer

2021 Apetite for Life lecture series, Kannapolis, NC "*Eating Healthy: What do we really know about our nutrients?"*.

2019 Invited Faculty Speaker, moderated science career discussion with undergraduate and graduate Students at the Department of Genetics and Biochemistry, Clemson University, SC.

2015 Invited Faculty Speaker, moderated science career discussion with undergraduate and graduate Students at the Department of Biochemistry & Molecular Biology, VCU, Richmond, VA

2015 Apetite for Life lecture series, Kannapolis, NC *"Vitamins and Healthy Diet: Balance is the Key"*