

PUBLICATIONS (Supervised or Co-Supervised Trainees In Bold)

REFEREED PAPERS PUBLISHED OR ACCEPTED

- 1) **Mohamed R**, Willmore WG. Effects of cadmium on the WNT signalling pathway in the colon. *Toxicological Letters* (submitted).
- 2) Daniel G, Collak F, **Hilan G**, Robillard E, Willmore WG, McKay BC, Sabatino D. Spermidine and chloroquine enhance peptide-based pDNA transfection efficiency within the GRP78- overexpressing DU145 prostate cancer cells. (submitted).
- 3) **Hilan G**, Daniel G, Collak F, Sabatino D, Willmore WG. (2025) Cancer-targeting peptides functionalized with polyarginine enables GRP78-dependent cell uptake and siRNA delivery within the DU145 prostate cancer cells. *Journal of Peptide Science* 31(3): e70007. doi:10.1002/psc.70007
- 4) **Esfandi R**, Willmore, WG, and Tsopmo A. (2024). Structural characterization of peroxy radical oxidative products of antioxidant peptides from hydrolyzed proteins. *Heliyon*, 10(9), e30588. <https://doi.org/10.1016/j.heliyon.2024.e30588>
- 5) Allen CH, Skillings R, Ahmed D, Sanchez SC, Altwasser K, **Hilan G**, Willmore WG, Chauhan V, Cassol E, Murugkar S. (2023). Investigating ionizing radiation-induced changes in breast cancer cells using stimulated Raman scattering microscopy. *Journal of Biomedical Optics*, 28(7), 076501. <https://doi.org/10.1117/1.JBO.28.7.076501>
- 6) **Cameron SJ, Sheng J**, Hosseinian F, Willmore WG. 2022. Nanoparticle effects on stress response pathways and nanoparticle-protein interactions. *International Journal of Molecular Sciences*. 2022. 23(14): 7962. doi: 10.3390/ijms23147962. PMID: 35887304; PMCID:PMC9323783.
- 7) **Chopra, A**, Willmore WG†, Biggar KK†. 2022. Insights into a cancer-target demethylase: substrate prediction through systematic specificity analysis for KDM3A. *Biomolecules*, 12(5), 641. <https://doi.org/10.3390/biom12050641>
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- 8) Bhattarai K, Richard T, Fatica T, Frangione B, Willmore WG, Holcik M. 2022. AMPK-related protein kinase ARK5 regulates subcellular localization of RNA-binding protein hnRNP A1 during hypertonic stress. *Journal of Biological Chemistry*. 2022 298(9): 102364. doi: 10.1016/j.jbc.2022.102364. PMID: 35963429; PMCID: PMC9478406
- 9) **Florian M**, Li B, Patry D, Truong J, Caldwell D, Coughlan MC, Woodworth R, Yan J, Chen Q, Petrov I, **Mahemuti L**, Lalande M, Li N, Chan LHM, Willmore WG, Jin X. 2022. Interplay of obesity, ethanol, and contaminant mixture on clinical profiles of cardiovascular and metabolic diseases: Evidence from an animal study. *Cardiovascular Toxicology* 22(6): 558-578. doi: 10.1007/s12012-022-09738-6. PMID: 35429258; PMCID: PMC9107407.
- 10) Hoekstra M, **Chopra A**, Willmore WG, Biggar KK. 2022. Evaluation of Jumonji C lysine demethylase substrate preference to guide identification of *in vitro* substrates. *STAR Protocols* 3(2): 101271.
- 11) **Reid CH**, Patrick PH, Rytwinski T, Taylor JJ, Willmore WG, Reesor B, Cooke SJ. 2022. An updated review of cold shock and cold stress in fish. *Journal of Fish Biology* 100(5): 1102-1137. doi: doi.org/10.1111/jfb.15037
- 12) Ahmed D, Humphrey A, Roy D, Sheridan ME, Versey Z, Jaworski A, Edwards A, **Donner J**, Abizaid A, Willmore W, Kumar A, Golshani A, Cassol E. 2021. HIF-1 α Regulation of cytokine production following TLR3 engagement in murine bone marrow derived macrophages is dependent on viral nucleic acid length and glucose availability. *Journal of Immunology* 207(11): 2813-2827.
- 13) Earnest KG, McConnell EM, **Hassan EM**, Wunderlich M, Hosseinpour B, Bono BS,

Chee MJ, Mulloy JC, Willmore WG, DeRosa MC, Merino EJ. 2021. Development and characterization of a DNA aptamer for MLL-AF9 expressing acute myeloid leukemia cells using whole cell-SELEX. *Scientific reports*, 11(1), 19174.

- 14) **Mohamed R, Kennedy C**, Willmore WG. 2021. Responses of Porcupine and Wntless proteins to oxidative, hypoxic and endoplasmic reticulum stresses. *Cellular Signalling* 85: 110047.
- 15) **Alqarni SA**, Willmore WG, Albert J, Smelser CW. 2021. Self-monitored and optically powered fiber optic device for localized hyperthermia and controlled cell death *in vitro*. *Applied Optics* 60(8): 2400- 2411.
- 16) **Walters ME**, Willmore WG, Tsopmo A. 2020. Antioxidant, physicochemical, and cellular secretion of glucagon-like peptide-1 properties of oat bran protein hydrolysates. *Antioxidants (Basel)* 9(6): 557. 17) **Chopra A**, Cho WC, Willmore WG†, Biggar KK†. 2020. Hypoxia-inducible lysine methyltransferases: G9a and GLP hypoxic regulation, non-histone substrate modification, and pathological relevance. *Frontiers in Genetics* 11: 579636. †contributed equally to this publication.
- 18) **Nguyen KC**, Zhang Y, Todd J, Kittle K, Lalande M, Smith S, Parks D, Navarro M, Tayabali AF, Willmore WG. 2020. Hepatotoxicity of cadmium telluride quantum dots induced by mitochondrial dysfunction. *Chemical Research in Toxicology* 33(9): 2286-2297.
- 19) Loyez M, **Hassan EM**, Lobry M, Liu F, Caucheteur C, Wattiez R, DeRosa MC, Willmore WG, Albert J. 2020. Rapid detection of circulating breast cancer cells using a multiresonant optical fiber aptasensor with plasmonic amplification. *ACS Sensors* 5(2): 454-463.
- 20) **Chopra A**, Adhikary H, Willmore WG†, Biggar KK†. 2020. Insights into the function and regulation of Jumonji C lysine demethylases as hypoxic responsive enzymes. *Current Protein and Peptide Science*. 20(27): 642-654. †contributed equally to this publication.
- 21) **Chopra A**, Willmore WG†, Biggar KK†. 2019. Protein quantification and visualization via ultraviolet dependent labeling with 2,2,2-trichloroethanol. *Scientific Reports* 9(1): 13923. †contributed equally to this publication.
- 22) **Koppert J**, Jean-Ruel H, O'Neill D, Harder C, Willmore W, Ianoul A, Albert J. 2019. Self-heating tilted fiber Bragg grating device for melt curve analysis of solid-phase DNA hybridization and thermal cycling. *Analytical and Bioanalytical Chemistry* 411(26): 6813-6823.
- 23) **Nguyen KC**, Zhang Y, Todd J, Kittle K, Patry D, Caldwell D, Lalande M, Smith S, Parks D, Navarro M, Massarsky A, Moon TW, Willmore WG, Tayabali AF. 2019. Biodistribution and systemic effects in mice following intravenous administration of cadmium telluride quantum dot nanoparticles. *Chemical Research in Toxicology* 32(8): 1491-1503.
- 24) **Esfandi R**, Willmore WG, Tsopmo A. 2019. Antioxidant and anti-apoptotic properties of oat bran protein hydrolysates in stressed hepatic cells. *Foods*. 8(5): E160.
- 25) **Birnie-Gauvin K**, Flávio H, Kristensen ML, Walton-Rabideau S, Cooke SJ, Willmore WG, Koed A, Aarestrup K. 2019. Cortisol predicts migration timing and success in both Atlantic salmon and sea trout kelts. *Scientific Reports* 9(1): 2422.
- 26) **Esfandi R**, Willmore WG, Tsopmo A. 2019. Peptidomic analysis of hydrolyzed oat bran proteins, and their *in vitro* antioxidant and metal chelating properties. *Food Chemistry* 279: 49-57.
- 27) Ahmed D, Jaworski A, Roy D, Willmore W, Golshani A, Cassol E. 2018. Transcriptional profiling suggests extensive metabolic rewiring of human and mouse macrophages during early interferon alpha responses. *Mediators of Inflammation* 5906819.
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- C, Ahmed D, Omid K, Kazmirchuk T, Puchacz N, Zare N, Takallou S, Naing T, Hernández RB, Willmore WG, Babu M, McKay B, Samanfar B, Holcik M, Golshani A. 2018. Heavy metal sensitivities of gene deletion strains for ITT1 and RPS1A connect their activities to the expression of URE2, a key gene involved in metal detoxification in yeast. *PLoS One* 13(9): e0198704.
- 29) **Jadavji NM**, Emmerson JT, Shanmugalingam U, MacFarlane AJ, Willmore WG, Smith PD. 2018. A genetic deficiency in folic acid metabolism impairs recovery after ischemic stroke. *Experimental Neurology* 309: 14-22.
- 30) **Cameron SJ**, Hosseinian F, Willmore WG. 2018. A current overview of the biological and cellular effects of nanosilver. *International Journal of Molecular Sciences* 19(7) pii: E2030.
- 31) **Strobel A**, Willmore WG, Sonne C, Dietz R, Letcher RJ. 2018. Organophosphate esters in East Greenland polar bears and ringed seals: Adipose tissue concentrations and *in vitro* depletion and metabolite formation. *Chemosphere* 196: 240-250.
- 32) **Hill KL**, Hamers T, Kamstra JH, Willmore WG, Letcher RJ. 2018. Organophosphate triesters and selected metabolites enhance binding of thyroxine to human transthyretin *in vitro*. *Toxicology Letters* 285: 87-93.
- 33) **Hill KL**, Mortensen ÅK, Teclechiel D, Willmore WG, Sylte I, Jenssen BM, Letcher RJ. 2018. *In vitro* and *in silico* competitive binding of brominated polyphenyl ether contaminants with human and gull thyroid hormone transport proteins. *Environmental Science and Technology* 52(3): 1533-1541.
- 34) **Mahemuti L**, Chen Q, Coughlan MC, Qiao C, **Chepelev NL**, **Florian M**, Dong D, **Woodworth RG**, Yan J, Cao XL, Scoggan KA, Jin X, Willmore WG. 2018. Bisphenol A induces DSB-ATM-p53 signaling leading to cell cycle arrest, senescence, autophagy, stress response, and estrogen release in human fetal lung fibroblasts. *Archives of Toxicology* 92(4): 1453-1469.
- 35) **Birnie-Gauvin K**, Larsen MH, Aarestrup K, Willmore WG, Cooke SJ. 2018. N-acetylcysteine manipulation fails to elicit an increase in glutathione in a teleost model. *Fish Physiology and Biochemistry* 44(1): 137-142.
- 36) **Hill KL**, Hamers T, Kamstra JH, Willmore WG, Letcher RJ. 2017. Optimization of an *in vitro* assay methodology for competitive binding of thyroidogenic xenobiotics with thyroxine on human transthyretin and albumin. *MethodsX* 4: 404-412.
- 37) **Hassan EM**, Willmore WG, McKay BC, DeRosa MC. 2017. *In vitro* selections of mammaglobin A and mammaglobin B aptamers for the recognition of circulating breast tumor cells. *Scientific Reports* 7(1): 14487.
- 38) **Jadavji NM**, Emmerson JT, MacFarlane AJ, Willmore WG, Smith PD. 2017. B-vitamin and choline supplementation increases neuroplasticity and recovery after stroke. *Neurobiology of Disease* 103: 89-100.
- 39) **Elmer LK**, O'Connor CM, Philipp DP, Van Der Kraak G, Gilmour KM, Willmore WG, Barthel BL, Cooke SJ. 2017. Oxidative ecology of paternal care in wild smallmouth bass, *Micropterus dolomieu*. *Journal of Experimental Biology* 220(Pt 10): 1905-1914.
- 40) **Birnie-Gauvin K**, Peiman KS, Larsen MH, Aarestrup K, Willmore WG, Cooke SJ. 2017. Short-term and long-term effects of transient exogenous cortisol manipulation on oxidative stress in juvenile brown trout. *Journal of Experimental Biology* 220(Pt 9): 1693-1700.
- 41) Peiman KS, **Birnie-Gauvin K**, Larsen MH, Colborne SF, Gilmour KM, Aarestrup K, Willmore WG, Cooke SJ. 2017. Morphological, physiological and dietary covariation in migratory and resident adult brown trout (*Salmo trutta*). *Zoology (Jena)*. 123:79-90. doi: 10.1016/j.zool.2017.07.002. Epub 2017 Jul 14. PMID: 28807503.
- 42) **Du Y**, **Esfandi R**, Willmore WG, Tsopmo A. 2016. Antioxidant activity of oat proteins derived peptides in stressed hepatic HepG2 cells. *Antioxidants (Basel, Switzerland)*. 5(4): pii: E39.

- 43) Mahemuti L**, Chen Q, Coughlan MC, Zhang M, **Florian M**, **Mailloux RJ**, Cao XL, Scoggan KA, Willmore WG, Jin X. 2016. Bisphenol A exposure alters release of immune and developmental modulators and expression of estrogen receptors in human fetal lung fibroblasts. *Journal of Environmental Science (China)*. 48: 11-23.
- 44) Hassan EM**, Willmore WG, DeRosa MC. 2016. Aptamers: promising tools for the detection of circulating tumor cells. *Nucleic Acid Therapeutics* 26(6): 335-347.
- 45) Zolderdo AJ**, Algera DA, Lawrence MJ, Gilmour KM, Fast MD, **Thuswaldner J**, Willmore WG, Cooke SJ. 2016. Stress, nutrition and parental care in a teleost fish: exploring mechanisms with supplemental feeding and cortisol manipulation. *Journal of Experimental Biology* 219(Pt 8): 1237- 1248.
- 46) Canez CR**, Shields SW, **Bugno M**, Wasslen KV, Weinert HP, Willmore WG, Manthorpe JM, Smith JC. 2016. Trimethylation enhancement using (13)C-diazomethane ((13)C-TrEnDi): increased sensitivity and selectivity of phosphatidylethanolamine, phosphatidylcholine, and phosphatidylserine lipids derived from complex biological samples. *Analytical Chemistry* 88(14): 6996-7004.
- 47) Taylor JJ**, Sopinka NM, Wilson SM, Hinch SG, Patterson DA, Cooke SJ, Willmore WG. 2016. Examining the relationships between egg cortisol and oxidative stress in developing wild sockeye salmon (*Oncorhynchus nerka*). *Comparative Biochemistry and Physiology, Part A: Molecular and Integrative Physiology* 200: 87-93.
- 48) Bugno M, Daniel M, Chepelev NL**, Willmore WG. 2015. Changing gears in Nrf1 research, from mechanisms of regulation to its role in disease and prevention. *Biochimica et Biophysica Acta (BBA) - Gene Regulatory Mechanisms* 1849: 1260-1276.
- 49) Raby GD**, Clark TD, Farrell AP, Patterson DA, Bett NN, **Wilson SM**, Willmore WG, Suski CD, Hinch SG, Cooke SJ. 2015. Facing the river gauntlet: understanding the effects of fisheries capture and water temperature on the physiology of coho salmon. *PLoS One*. 10(4): e0124023.
- 50) Nguyen KC**, Rippstein P, Tayabali AF, Willmore WG. 2015. Mitochondrial toxicity of cadmium telluride quantum dot nanoparticles in mammalian hepatocytes. *Toxicological Sciences*. 146(1): 31-42.
- 51) Taylor JJ, Wilson SM**, Sopinka NM, Hinch SG, Patterson DA, Cooke SJ, Willmore WG. 2015. Are there intergenerational and population-specific effects of oxidative stress in sockeye salmon (*Oncorhynchus nerka*)? *Comparative Biochemistry and Physiology A Molecular and Integrative Physiology* 184: 97-104.
- 52) Mailloux RJ**, Willmore WG. 2014. S-glutathionylation reactions in mitochondrial function and disease. *Frontiers in Cell and Developmental Biology*. 2: 68.
- 53) Mailloux RJ, Florian M**, Chen Q, Yan J, Petrov I, Coughlan MC, **Laziyan M**, Caldwell D, Lalande M, Patry D, Gagnon C, Sarafin K, Truong J, Chan HM, Ratnayake N, Li N, Willmore WG, Jin X. 2014. Exposure to a Northern contaminant mixture (NCM) alters hepatic energy and lipid metabolism exacerbating hepatic steatosis in obese JCR rats. *PLoS ONE* 9(9): e106832.
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- 55) Nguyen VM**, Martins EG, Robichaud D, Raby GD, Donaldson MR, Lotto AG, Willmore WG, Patterson DA, Farrell AP, Hinch SG, Cooke SJ. 2014. Disentangling the roles of air exposure, gill net injury, and facilitated recovery on the postcapture and release mortality and behavior of adult migratory sockeye salmon (*Oncorhynchus nerka*) in freshwater. *Physiological and Biochemical Zoology* 87: 125–135.
- 56) Mailloux RJ**, Jin X, Willmore WG. 2013. Redox regulation of mitochondrial function with emphasis on cysteine oxidation reactions. *Redox Biology* 2: 123-139.
- 57) Nguyen KC**, Willmore WG, Tayabali AF. 2013. Cadmium telluride quantum dots

- cause oxidative stress leading to extrinsic and intrinsic apoptosis in hepatocellular carcinoma HepG2 cells. *Toxicology* 306: 114-123.
- 58) **Chepelev NL**, Zhang H, Liu H, **McBride S**, **Seal AJ**, Morgan TE, Finch CE, Willmore WG, Davies KJA, Forman HJ. 2013. Competition of nuclear factor erythroid 2 factors related transcription factor isoforms, Nrf1 and Nrf2, in antioxidant enzyme induction. *Redox Biology* 1: 183-189.
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 - 61) **Chepelev NL**, **Enikanolaiye MI**, **Chepelev LL**, Chen QX, Scoggan KA, Coughlan MC, Cao XL, Jin X and Willmore WG. 2013. Bisphenol A activates Nrf1/2-antioxidant response element pathway in HEK 293 cells. *Chemical Research in Toxicology* 26: 498-506.
 - 62) **Wilson SM**, Gravel M-A., **Mackie TA**, Willmore WG and Cooke SJ. 2012. Oxidative stress associated with parental care in smallmouth bass (*Micropterus dolomieu*). *Comparative Biochemistry and Physiology, Part A* 162: 212-218.
 - 63) Raby GD, Donaldson MR, Hinch SG, Patterson DA, Lotto AG, Robichaud D, English KK, Willmore WG, Farrell, Davis MW and Cooke SJ. 2012. Validation of reflex indicators for measuring vitality and predicting the delayed mortality of wild coho salmon bycatch released from fishing gears. *Journal of Applied Ecology* 49(1): 90-98.
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 - 65) **Gliwa J**, Gunenc A, Ames N, Willmore WG and Hosseinian FS. 2011. Antioxidant activity of alkylresorcinols from rye bran and their protective effects on cell viability of PC-12AC cells. *Journal of Agricultural and Food Chemistry* 59: 11473-11482.
 - 66) **Chepelev NL** and Willmore WG. 2010. Regulation of iron pathways in response to hypoxia. *Free Radical Biology & Medicine*. 50(6): 645-666.
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 - 69) Hirota SA, Fines K, Ng J, Traboulsi D, Lee J, Ihara E, Li Y, Willmore WG, Chung D, Scully MM, Louie T, Medicott S, Lejeune M, Chadee K, Armstrong G, Colgan SP, Muruve DA, MacDonald J and Beck PL. 2010. Hypoxia-inducible factor signaling provides protection in *Clostridium difficile*-induced intestinal injury. *Gastroenterology* 139(1): 259-269.
 - 70) **Chepelev NL**, **Bennitz JD**, Wright JS, Smith JC, Willmore WG. 2009. Oxidative modification of citrate synthase by peroxy radicals and protection with novel antioxidants. *Journal of Enzyme Inhibition and Medicinal Chemistry* 24(6): 1319-1331.
 - 71) **Belew MS***, Quazi FI*, Willmore WG[†] and Aitken SM[†]. 2008. Kinetic

characterization of recombinant human cystathionine β -synthase purified from *E. coli*. Protein Expression and Purification 64: 139- 145. *†contributed equally to this publication.

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- 73) Willmore WG and Storey KB. 2007. Characterization of glutathione reductase from the slider turtle *Trachemys scripta elegans*. Molecular and Cellular Biochemistry 297: 139-149.
- 74) **Flueraru M**, Willmore WG, Poulter MO, Durst T, Charron M and Wright JS. 2006. Cytotoxicity and cytoprotective activity of naphthalenediols in rat cortical neurons. Chemical Research in Toxicology 19: 1221-1227.
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- 81) Willmore WG, English TE, and Storey KB. 2001. Mitochondrial gene responses to low oxygen stress in turtle organs. Copeia 2001: 628-637.
- 82) Horiguchi H, Kayama F, Oguma E, Willmore WG, Hradecky P and Bunn HF. 2000. Cadmium and platinum suppression of erythropoietin production in cell culture: clinical implications. Blood 96: 3743-3747.
- 83) Willmore WG, Huang LE, Gu J, Goldberg, MA and Bunn HF. 1999. Inhibition of hypoxia-inducible factor 1 activation by carbon monoxide and nitric oxide. Journal of Biological Chemistry 274(13): 9038- 9044.
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BOOKS PUBLISHED

- 1) Garrett RH, Grisham CM, Willmore WG*, Andreopoulos R*, Gallouzi I-E*. Biochemistry, First Canadian Edition. 2013. Nelson Education, Toronto.

BOOK CHAPTERS PUBLISHED (Supervised or Co-Supervised Trainees In Bold)

- 1) **Chepelev L, Chepelev N**, Shadnia H, Willmore WG, Wright JS, Dumontier M. 2009. Development of Small Molecule Ligands and Inhibitors. In: Small Molecules for Protein Targeting. Hiroyuki Osada (ed). John Wiley & Sons, Inc., Hoboken, NJ.
- 2) Willmore WG. 2004. Control of Transcription in Eukaryotic Cells. In: Functional Metabolism: Regulation and Adaptation. Kenneth B. Storey (ed). Wiley-Liss, Inc., Hoboken, NJ.
- 3) Willmore WG. 2004. Translational Controls and Protein Synthesis in Eukaryotic Cells. In: Functional Metabolism: Regulation and Adaptation. Kenneth B. Storey (ed). Wiley-Liss, Inc., Hoboken, NJ.

ABSTRACTS IN REFEREED CONFERENCE PROCEEDINGS (Supervised or Co-Supervised Trainees In Bold)

- 1) **Chopra A**, Willmore WG†, Biggar KK†. 2019. Systematic discovery of novel KDM3A substrates: First permutation-based exploration of the substrate specificity of an iron(II)/2-oxoglutarate-dependent dioxygenase. †contributed equally to this poster. Keystone Symposia, Hypoxia: Molecules, Mechanisms and Disease, Keystone Resort, Colorado, January 19-23, 2020.
- 2) **Mohamed R, Kennedy C**, Willmore WG. 2019. Responses of Porcupine and Wntless proteins to oxidative, hypoxic and endoplasmic reticulum stresses in HEK293T and HCT116 cell lines. 22nd Annual Chemistry and Biochemistry Graduate Research Conference, Concordia University, Montreal, Quebec. November 15, 2019.
- 3) **Mohamed R, Kennedy C**, Willmore WG. 2017. The role of stressors on the expression and function of Porcupine and Wntless in human colorectal carcinoma cells. Society for Free Radical Biology and Medicine (SFRBM) 24th Annual Meeting, Baltimore, Maryland. November 29-December 2, 2017. Free Radical Biology & Medicine 112(S1): S96.
- 4) **Cameron S**, Hosseinian F, Willmore WG. 2017. Effects of nanosilver on antioxidant and xenobiotic response pathways in HEK293T cells. Society for Free Radical Biology and Medicine (SFRBM) 24th Annual Meeting, Baltimore, Maryland. November 29-December 2, 2017. Free Radical Biology & Medicine 112(S1): S20.
- 5) **Nguyen KC**, Tayabali AF, Willmore WG. 2016. Hepatotoxicity of cadmium telluride quantum dot nanoparticles: mitochondrial generated reactive oxygen species as a mechanism. Society for Free Radical Biology and Medicine (SFRBM) 23rd Annual Meeting, San Francisco, California. November 16-19, 2016. Free Radical Biology & Medicine 100(S1): S43.
- 6) Willmore WG. 2016. Nuclear factor (erythroid-derived 2)-like-1 (NFE2L1): at the crossroads of stress responses. Society for Free Radical Biology and Medicine (SFRBM) 23rd Annual Meeting, San Francisco, California. November 16-19, 2016. Free Radical Biology & Medicine 100(S1): S47.
- 7) **Daniel M** and Willmore WG. 2015. Oxidative stress and cellular aging in response to polybrominated diphenyl ether flame retardants. Society for Free Radical Biology and Medicine (SFRBM) 22nd Annual Meeting, Boston, Massachusetts, November 18-21, 2015. Free Radical Biology & Medicine 87(S1): S128-S129.
- 8) **Cameron S, Hovey O**, Hosseinian F, Willmore WG. 2015. Nanosilver effects on detoxification pathways in human embryonic kidney cells. Society for Free Radical Biology and Medicine (SFRBM) 22nd Annual Meeting, Boston, Massachusetts, November 18-21, 2015. Free Radical Biology & Medicine

87(S1): S110.

- 9) **Bugno M, Mailloux RJ**, Willmore WG. 2014. Modulation of Nrf1 by endoplasmic reticulum stress and the unfolded protein response. Society for Free Radical Biology and Medicine (SFRBM) 20th Annual Meeting, San Antonio, Texas, November 20-24, 2014. *Free Radical Biology & Medicine* 76(S1): S68.
- 10) **Mahemuti L**, Chen Q, Coughlan MC, Zhang M, **Florian M, Mailloux RJ**, Cao X-L, Scoggan K, Willmore WG, Jin X. 2014. Bisphenol A (BPA) exposure alters release of immune and developmental modulators and expression of estrogen receptors (ERs) in human fetal lung fibroblasts (HFLF). Society for Free Radical Biology and Medicine (SFRBM) 20th Annual Meeting, San Antonio, Texas, November 20-24, 2014. *Free Radical Biology & Medicine* 76(S1): S62.
- 11) **Mailloux RJ**, Fu A, Florian M, Petrov I, Chen Q, Coughlan MC, **Mahemuti L**, Yan J, Caldwell D, Patry D, Lalande M, Willmore WG, Jin X. 2014. Northern contaminants disrupt insulin secretion in rat pancreas and Min6 insulinoma cells. Society for Free Radical Biology and Medicine (SFRBM) 20th Annual Meeting, San Antonio, Texas, November 20-24, 2014. *Free Radical Biology & Medicine* 76(S1): S112.
- 12) **Nguyen KC**, Tayabali AF, Willmore WG. 2013. Mitochondrial toxicity of cadmium telluride quantum dot nanoparticles in human hepatocytes. Society for Free Radical Biology and Medicine (SFRBM) 19th Annual Meeting, San Diego, California, November 14-18, 2013. *Free Radical Biology & Medicine* 65(S2): S149.
- 13) **Mailloux RJ**, Jin X, Willmore WG. 2013. Redox switches and mitochondria; S-glutathionylation in the control of mitochondrial bioenergetics. Society for Free Radical Biology and Medicine (SFRBM) 19th Annual Meeting, San Diego, California, November 14-18, 2013. *Free Radical Biology & Medicine* 65(S2): S145.
- 14) **Mailloux RJ**, Coughlan MC, Gagnon C, **Florian M, Mahemuti L**, Lalande M, Caldwell D, Willmore WG, Ratnayake N, Jin X. 2013. Effects of Northern contaminants and alcohol consumption in the JCR/LA Rat, a model of metabolic and cardiovascular diseases. Society for Free Radical Biology and Medicine (SFRBM) 19th Annual Meeting, San Diego, California, November 14-18, 2013. *Free Radical Biology & Medicine* 65(S2): S30.
- 15) **Mailloux RJ, Florian M**, Chen Q, Petrov I, Coughlan MC, **Mahemuti L**, Lalande M, Caldwell D, Li N, Willmore WG, Jin X. 2013. Impact of a Northern contaminant mixture (NCM) on energy metabolism and cholesterol homeostasis in the liver of JCR rats. Society for Free Radical Biology and Medicine (SFRBM) 19th Annual Meeting, San Diego, California, November 14-18, 2013. *Free Radical Biology & Medicine* 65(S2): S31.
- 16) Willmore WG. 2012. The Nrf1 CNC-bZIP protein is regulated by the proteasome and activated by hypoxia. Oxygen Radicals, Gordon Research Conference, Ventura Beach Marriott, Ventura, California, February 5-10, 2012.
- 17) **Chepelev NL, Bennitz JD, Huang T, McBride SL**, Willmore WG. 2011. The Nrf1 CNC-bZip protein is regulated by the proteasome and activated by hypoxia. Nrf1 (NFE2L1) transcription factor is regulated by multiple stimuli through the stability of its inhibitory p65 Nrf1 form. Society for Free Radical Biology and Medicine (SFRBM) 18th Annual Meeting, Atlanta, Georgia, November 18-22, 2011. *Free Radical Biology & Medicine* 51(S1): S12-S13.
- 18) Willmore WG, **Chepelev NL, Bennitz JD, Huang T, McBride S**. 2011. Regulation of NFE2L1 CNC bZIP protein by multiple post-translational modifications. Society for Free Radical Biology and Medicine (SFRBM) 18th Annual Meeting, Atlanta, Georgia, November 18-22, 2011, *Free Radical Biology & Medicine* 51(S1): S17.
- 19) **Chepelev NL, Enikanolaiye MI**, Chen QX, Coughlan MC, Scoggan KA, Jin X, Willmore WG. Human antioxidant response element-Nrf1/2 pathway-mediated

defense against bisphenol A exposure. Society for Free Radical Biology and Medicine (SFRBM) 17th Annual Meeting, Orlando, Florida, November 17-21, 2010. Free Radical Biology & Medicine 49(S1): S127-S128. **won Mini Fellowship Award (\$2,000 U.S.D.)**

- 20) **Chepelev NL** and Willmore WG. The Nrf1 CNC/bZIP protein is regulated by the proteasome and activated by hypoxia. Society for Free Radical Biology and Medicine (SFRBM) 16th Annual Meeting, San Francisco, California, November 18-22, 2009. Free Radical Biology & Medicine 47(S1): S4. **won the Young Investigator Award (\$1,000 U.S.D.)**
- 21) **Chepelev NL**, and Willmore WG. Regulation of Nrf1 levels and ARE binding activity during hypoxia in COS7 cells. 6th Annual Meeting of the Canadian Oxidative Stress Consortium (COSC), Winnipeg, Manitoba May 7-10, 2009. **(talk) won COSC Travel Award**
- 22) **Chepelev NL**, Wright JS and Willmore WG. Oxidative modification and inactivation of citrate synthase by peroxy radicals and protective effects of novel antioxidants. Oxygen Radicals Gordon Research Conference, Ventura, California, February 3-8, 2008.
- 23) Willmore WG. Hydroxylation as an understudied posttranslational modification of proteins controlling hypoxic responses. 7th International Congress of Comparative Physiology and Biochemistry, Salvador, Bahia, Brazil, August 12-16, 2007. Comparative Biochemistry and Physiology 148A(S1): S61.
- 24) Willmore WG, **Huang S**, **Robbins J**, Zhu H, and Bunn HF. *In vivo* and *in vitro* studies of Hypoxia Inducible Factor-1 (HIF-1) dimerization and DNA-binding in response to prooxidant stress. Society for Free Radical Biology and Medicine 13th Annual Meeting, Denver, Colorado, November 15-19, 2006. Free Radical Biology & Medicine 41(S1): S44.
- 25) **Chepelev NL**, Wright JS and Willmore WG. Oxidative modification and inactivation of citrate synthase by peroxy radicals and protective effects of novel antioxidants. Society for Free Radical Biology and Medicine (SFRBM) 13th Annual Meeting, Denver, Colorado, November 15-19, 2006. Free Radical Biology & Medicine 41(S1): S133. **won SFRBM Travel Award (\$1,000 U.S.D.)**
- 26) **Flueraru M**, **Chichirau A**, Shadnia H, **Chepelev LL**, Poulter MO, Willmore WG, Durst T, Charron M, Barclay LRC and Wright JS. Testing naphthalenediols for toxicity and protective effects against oxidative stress in rat cortical neurons. Society for Free Radical Biology and Medicine 12th Annual Meeting, Austin, Texas, November 16-20, 2005. Free Radical Biology & Medicine 39(S1): S12.
- 27) **Farha MA** and Willmore WG. Post-translational modification and protein stabilization of ALAS2 under hypoxia. Canadian Society of Biochemistry, Molecular & Cellular Biology (CSBMCB) 47th Annual Meeting, Mont Tremblant, Quebec, May 27-30, 2004. Biochemistry and Cell Biology 82(6): 755.
- 28) Willmore WG and Bunn HF. Protection from mixed function oxidation of pyruvate kinase activity by transition metals. 6th Annual Meeting of the Oxygen Society, New Orleans Marriott, New Orleans, Louisiana, November 18-22, 1999. Free Radical Biology & Medicine 27(S1): 34.
- 29) Willmore WG, Gorr TA and Bunn HF. Effects of ROS on hypoxia- and cobalt-induced HIF-1 binding and erythropoietin expression in Hep3B. 6th Annual Meeting of the Oxygen Society, New Orleans Marriott, New Orleans, Louisiana, November 18-22, 1999. Free Radical Biology & Medicine 27(S1): 164.
- 30) Willmore WG and Bunn HF. Role of mitochondria in oxygen sensing. 6th Annual Meeting of the Oxygen Society, New Orleans Marriott, New Orleans, Louisiana, November 18-22, 1999. Free Radical Biology & Medicine 27(S1): 190.

INVITED PRESENTATIONS

- 1) Oxygen Sensing to Tissue Engineering: Utilizing Extracellular Matrix Modifiers in

Tissue Models. Faculty of Pharmacy and Pharmaceutical Sciences Seminar Series, University of Alberta, April 23, 2024.

- 2) Oxygen Sensing and Tissue Remodelling. First Tissue Engineering and Applied Materials (TEAM) Hub Workshop, Carleton University, Ottawa, Ontario, June 26-28, 2023.
- 3) Nuclear factor (erythroid-derived 2)-like-1 (NFE2L1 or Nrf1): at the cross roads of stress responses. Canadian Oxidative Stress Consortium 2018, University of Alberta, Edmonton, Alberta, May 30- June 1, 2018.
- 4) NRF1: The lesser-known player in the antioxidant response. Canadian Oxidative Stress Consortium 2016, University of Guelph, Guelph, Ontario, June 3, 2016.
- 5) NFE2L1 (Nrf1): the lesser-known player in the antioxidant response. Seminar Series, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, April 21, 2016.
- 6) Oxidative stress in Pacific salmon (*Oncorhynchus spp.*) during spawning, migration and capture/release. Plenary Talk. Second International Conference on Oxidative Stress in Aquatic Ecosystems, La Paz, Mexico, November 11-14, 2015.
- 7) Bisphenol A (BPA) activates Nrf1/2-antioxidant response element pathway in HEK 293 cells. Health Canada Science Forum, Ottawa Convention Centre, Ottawa, Ontario. December 4, 2012.
- 8) Nuclear factor-erythroid 2 p45 subunit-related factor 1 (Nrf1) as an understudied factor in the xenobiotic/antioxidant response. Canadian Oxidative Stress Consortium, Lakehead University, Thunder Bay, Ontario. May 12, 2012.
- 9) Regulation of NFE2L1 CNC-bZIP (Nrf1) protein by multiple post-translational modifications. Oxygen Radicals, Gordon Research Conference, Ventura Beach Marriott, Ventura, California, February 9, 2012.
- 10) Adaptive responses to oxidative stress encountered during hypoxia: the role of Nrf1 and the antioxidant response element. National Research Council of Canada, Institute of Biological Sciences, March 9, 2011.
- 11) Environmental stressors as chemical mediators of oxygen toxicity. Explore! Environmental Stressors Symposium, Environmental Health and Research Initiative, Senate Room, Robertson Hall, Carleton University, February 27, 2009.
- 12) Adaptation to hypoxia: control by oxygen-dependent protein modification. Department of Biology, Guest Seminar Series, University of Waterloo, Waterloo, Ontario. November 16, 2007.
- 13) Hydroxylation as an understudied posttranslational modification of proteins controlling hypoxic responses. The 7th International Congress of Comparative Physiology and Biochemistry, Pestana Bahia Hotel, Salvador, Bahia, Brazil. August 14, 2007.
- 14) "Oxygen on the brain": cellular adaptation to low oxygen conditions. Department of Chemistry and Biochemistry, Laurentian University, Sudbury, Ontario. September 21, 2006.
- 15) Oxygen-dependent protein modifications and their role in adaptive responses to low oxygen. Protein Function Discovery Group, Queen's University, Kingston, Ontario. March 31, 2006.
- 16) Adaptive responses to low oxygen. Third International Conference of Comparative Physiology & Biochemistry in Africa: Animals and Environments, Ithala Game Reserve, KwaZulu-Natal, South Africa. August 7-13, 2004
- 17) The oxygen paradox: life at oxygen extremes. Carleton University Spring Conference, Opinicon Lodge, Chaffey's Lock, Ontario. May 1, 2004.
- 18) Adaptive response to oxygen stress: nonspecific and specific modification of protein structure and function by oxygen. The 42nd Annual Meeting of the Canadian Society of Zoologists (CSZ). Comparative Physiology and Biochemistry. Metabolic Plasticity in Animal Adaptations. Wilfrid Laurier University, Kitchener/Waterloo, Ontario. May 10, 2003.

- 19)** Adaptive response to oxygen stress: nonspecific and specific modification of protein structure and function by oxygen. Ottawa Carleton Chemistry Institute, Ottawa, Ontario. May 6, 2003.
- 20)** Protein regulation by oxygen: a tale of two extremes. Department of Biology, Queen's University. Kingston, Ontario. February 11, 2003.
- 21)** Oxygen: a two-edged sword. Oxygen control of Hypoxia-Inducible Factor-1 (HIF-1) structure and function. Department of Biology, University of Ottawa, Ottawa, Ontario. November 21, 2002.
- 22)** Oxygen: a two-edged sword. Oxygen regulation of protein structure/function and gene expression. Department of Biochemistry, Microbiology, and Immunology, University of Ottawa, Ottawa, Ontario. October 24, 2002.
- 23)** Oxygen: a double-edged sword. Oxygen effects on protein structure and function. National Wildlife Research Council, Hull, Quebec. April 17, 2002.

CONFERENCES/WORKSHOPS ORGANIZED

- 1)** First Tissue Engineering and Applied Materials (TEAM) Hub Workshop, Carleton University, Ottawa, June 26 to 28, 2023. One of the primary organizers of this conference with 130 attendees. Events included talks by guest speakers from academia, government and industry, student poster presentations and panel discussions on future collaborations with TEAM Hub (www.teamhubottawa.com).
- 2)** National Research Council-Carleton University Biotechnology (NRC-CU) Internship, February 2019, One week internship for 30 Carleton University Biotechnology students at the NRC for training in Biotechnology careers. Events included talks by guest speakers from government and industry, group workshops for students and tours of government and industrial facilities. Students received a certificate of completion at the end of the internship.
- 3)** Chair, Eighth Meeting of the Canadian Oxidative Stress Consortium, Carleton University, Ottawa, June 11 to 13, 2014. Chaired this national conference which included bringing in sponsors (including the Society of Free Radical Biology and Medicine), inviting in Keynote and Guest speakers and re-creating the Consortium's website (www.carleton.ca/cosc).
- 4)** Faculty champion of Explore! Environmental Stressors Symposium, Environmental Health and Research Initiative, Senate Room, Robertson Hall, Carleton University, February 27, 2009.