*CURRICULUM VITAE*

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| Ahmed Bettaieb, PhD  Assistant Professor  Nutrition Department,  University of Tennessee-Knoxville  616 Mossman Building 1311 West Cumberland Avenue  Knoxville, TN, 37996  Phone: 865-974-6267  E-mail: [abettaie@utk.edu](mailto:abettaie@utk.edu)  ORCID : <https://orcid.org/0000-0003-2894-9608>  **Personal Statement** |

After completing a B.S. degree in Biological Sciences at the University of Sciences, in Monastir, Tunisia in 2001, I pursued both the M.Sc. and Ph.D. degrees at the University of Quebec at Montreal, Canada. In 2009, I joined the University of California, Davis where I began my training in the Department of Nutrition as a post-doctoral fellow. In 2012, I was promoted to Assistant Project Scientist then to Assistant Researcher in 2014. My passion for research however, started in 1999 when I began work in a laboratory that focused on the molecular mechanisms and genetic variants that influence fertility in humans. This positive experience inspired me to pursue a career in biomedical research. I applied to and was accepted into a M.Sc. program at the University of Quebec. I completed both my M.Sc. and Ph.D. degrees with Dr. Averill-Bates in the Department of Chemistry and Biochemistry with a focus on cancer biology. In particular, my research focused on the molecular mechanisms of cancer therapy using noninvasive biological methods, such as hyperthermia. Furthermore, during my graduate program, I gained extensive experience in cell biology and molecular techniques, including analysis of cell antioxidants and redox signaling. My training program gave me the opportunity to strengthen my knowledge base in the molecular mechanisms of disease and to enhance my public speaking skills through didactic training and seminars. I was successful in this program as reflected by my awards and publications. For example, I received the International Travel and Research Award from the Ministry of Higher Education and Biotechnology of Tunisia, the Excellence in Research Award offered by the Faculty of Sciences of the University of Quebec at Montreal and the Scholarship of Excellence Award from the Foundation of the University of Quebec. During my graduate studies in cancer biology, I became aware of the large amount of overlap between cancer biology and chronic metabolic diseases, especially obesity and saw this combination of training as a potentially powerful tool for my pursuit of a career in biomedical research. Furthermore, as I have watched many of my family members develop and suffer from metabolic diseases such as obesity and type 2 diabetes mellitus. I have developed a personal interest in this field of research. Consequently, I started learning about the field and I attended several seminars on obesity and diabetes, within the University of Quebec at Montreal but also at other universities including McGill University, Concordia University, and the University of Toronto. These seminars allowed me to meet and exchange ideas with other scientists and experts in the field. I found myself more attracted and fascinated by research focusing on metabolic diseases, which culminated in my decision to pursue post-doctoral training in molecular mechanisms of obesity and type 2 diabetes.

I pursued my post-doctoral training with Dr. Fawaz Haj in the Department of Nutrition at the University of California, Davis from 2009-2012. My training program with Dr. Haj greatly expanded my knowledge base in the pathophysiology of chronic metabolic disorders. Furthermore, I was able to gain further training in the use of animal models of disease and the performance of in vivo work which I had not been exposed to in my previous training. I was successful in this position and was able to publish 9 manuscripts with Dr. Haj during my post-doctoral studies. I was promoted in 2012 to Assistant Project Scientist then two years later to Assistant Researcher in the Department of Nutrition at UC Davis.

During my tenure at UC Davis, I have been able to establish several strong collaborative relationships. These collaborations have exposed me to the research endeavors of other investigators in the Division of Endocrinology, Immunology, Oncology, Clinical Nutrition and Vascular Medicine at the UCD-medical center (UCDMC), McGill University, and Harvard Medical School. Likewise, these collaborations were deeply gratifying and fascinating as they allowed me to learning novel experimental techniques and new areas of expertise.

Based on my accomplishments, I was awarded a prestigious K99/R00 Award from the NIH in 2013 and in 2015; I joined the Nutrition Department at the University of Tennessee-Knoxville as an assistant Professor. Currently funded by the R00 portion of the K Award. My research activities focus on understanding the molecular and genetic mechanisms that contribute to the development of metabolic diseases including obesity, diabetes, chronic inflammation and cardiovascular diseases. My main goal is to develop translational research plans to improve the treatment and/or prevention of these diseases. In addition, I am lecturing at the undergraduate and graduate level and I am comfortable with both didactic and short course/seminar format courses. Additionally, I am currently mentoring undergraduate and graduate students and a postdoctoral fellow. Finally, I know I have the enthusiasm, capacity for hard work and the open and enquiring mind needed to succeed in my career. Crucially, I believe that I possess the tools that will enable me to forge a path towards a productive career in the field of metabolic diseases within the Department of Nutrition at the University of Tennessee-Knoxville.

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| **Education & Training** |

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| **INSTITUTION AND LOCATION** | **DEGREE** | **MM/YY** | **FIELD OF STUDY** |
| Faculty of Center, Monastir, Tunisia | B.Sc. | 06/2001 | Reproductive Biology |
| University of Quebec at Montreal, Montreal, Canada | M.Sc. (Distinction) | 01/2004 | Cancer |
| University of Quebec at Montreal, Montreal, Canada | Ph.D. | 01/2009 | Cancer |
| University of California-Davis, Davis, CA, USA | Post-doc | 01/2009-12/2011 | Obesity, Diabetes, Cancer and Cardiovascular diseases. |

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| **Research & Work Experience** |

2015- Current: Assistant Professor, University of Tennessee-Knoxville, Department of Nutrition. Research in the field of Obesity, Diabetes, Cardiovascular Diseases, and Cancer.

2014-15: Assistant Researcher, University of California-Davis, California; USA. Department of Nutrition. Research in the field of Obesity, Diabetes, Cardiovascular diseases, Cancer development and metastasis. I helped develop courses related to Nutrition and Metabolic Diseases.

2012-14: Assistant Project Scientist, University of California-Davis, California; USA. Department of Nutrition. Research in the field of Obesity, Diabetes, Cardiovascular diseases, Cancer development and metastasis.

2008-11: Postdoctoral fellow, University of California-Davis, California; USA. Department of Nutrition. Research in the field of Obesity, Diabetes, Cardiovascular diseases, Cancer development and metastasis.

2007-08: Research Associate Scientist. University of Quebec at Montreal- INRS-Institut Armand-Frappier, Laval, Quebec; Canada. Department of Biological Sciences. Research in the field of Cancer and drug development.

2000-01: Research Associate Scientist. Hospital Farhat Hached, Sousse Tunisia. Research in the field of Reproductive Biology.

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| **Teaching Experience** |

2017-: Invited Lecturer: NUTR 412, NUTR 543, and LFSC 515. University of Tennessee-Knoxville.

2015-: Instructor: NUTR 313, NUTR 420, NUTR 450, NUTR 493, NUTR 510 and NUTR 512. University of Tennessee-Knoxville.

2010- 2015: Invited Lecturer: Nutrition 104, 117 and 290 Courses. University of California, Davis.

2004-2008: Teaching Assistant: Instrumental Biochemistry Course. University of Quebec at Montreal- INRS-Institut Armand-Frappier, Laval, Quebec; Canada. Department of chemistry and Biochemistry.

2005-2006: Teaching Assistant: Analytical Biochemistry Course. University of Quebec at Montreal- INRS-Institut Armand-Frappier, Laval, Quebec; Canada. Department of chemistry and Biochemistry.

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| **Publications** |

During my tenure at the University of Tennessee-Knoxville, I was able to made significant contributions to our understanding of molecular mechanisms of obesity and diabetes. For example, through a recent collaborative high-risk project with Dr. Bruce Hammock from the University of California, Davis, we uncovered a novel molecular mechanisms of diabetic neuropathy and the contribution of endoplasmic reticulum (ER) stress in driving neuropathic pain. According to popular science magazines, this discovery could revolutionize the development of therapies that help millions of diabetes patients suffering chronic pain, as well as patients with multiple sclerosis, post-traumatic shingles, and other conditions involving nerve damage. It was through this study that we were the first to introduce the concept of sEH inhibition as a therapeutic potential for treating diabetic neuropathy by modulating ER stress. Discover magazine described this study as “One of Top 100 Science Stories of 2015.” My multidisciplinary training, broad experience, tenacity, and scientific thinking were instrumental in not only completing this study but in expanding upon these findings and embarking on new innovative projects. For example, in collaboration with investigators from the NIH, Harvard Medical School, and Spain, I recently identified sEH as a key signaling molecule in diabetic nephropathy and proteinuric kidney disease due to its modulation of key signaling pathways involved in tissue homeostasis and response to stress. Through these studies, we proposed new standards for potentially modulating ER stress and autophagy to treat diabetes and its complications.

The University of Tennessee, Knoxville (UT) has strong research efforts in the field of metabolic regulation with a number of very active groups spread across campus performing exciting research. One element that was helpful in choosing UT was the strong collaborative nature of research between laboratories and the free sharing of ideas and tools among laboratories. In addition, my interest in modulation of metabolic disorders and cardiovascular diseases using dietary interventions, alongside other approaches, were the major factors that contributed to my decision to conduct my research in the Department of Nutrition. Further, I enjoy teaching and mentoring students, and pursuing a career in academia will give me the opportunity to engage students and fulfill my passion for teaching. Additionally, my diversified experience in the fields of nutrition, obesity, diabetes, cardiovascular diseases, cancer development and metastasis, nephropathy and neuropathy made me well poised for the successful mentoring of graduate and undergraduate students, as well as, national and international post-doctoral fellows and visiting scholars. Indeed, over the last 10 years I mentored 19 undergraduate students, 11 PhD students and 9 post-doctoral trainees. As a mentor, I lead informal discussions on the major concepts being studied, provide training on techniques ranging from simple techniques, such as western blotting to rodent survival surgery, and even more complex techniques, such metabolic and proteomic data analysis. I also train my students on responsible conduct of research and collaboration, how to design a studies, as well as data acquisition, analysis, and presentation. In addition, I lead journal discussion groups on manuscripts relevant to the research project in order to encourage students to become more intellectually involved in the study and to give students experience with critical reading and insight into manuscript preparation. Furthermore, I have been teaching a training class aiming at training undergraduate students from the Nutrition Department, but also other Departments and campuses on how to design and conduct biomedical research. This class offers training in biochemical, genetic and imaging experimental approaches related to biomedical research. Students interested in conducting basic research will be selected based on their future career objectives and will be provided with the opportunity to engage in the active research projects in my laboratory and present their data in local and national undergraduate research conferences such as the Exhibition of Undergraduate Research and Creative Achievement (EURēCA) and the National Conference on Undergraduate Research. Finally, I often encourage all of my undergraduate students to collaborate with senior graduate students and postdoctoral employees, and actively engage in their research projects and secure authorship on manuscripts.

**Select publications summarizing our work:(Overby et al., 2017)**

1. Puckett D, Alquraishi M, Alani D, Chahed S, Frankel VD, Donohoe DR, Voy BH, Whelan J, and Bettaieb A. Zyflamend, a Unique Herbal Blend, Inhibits Adipogenesis through the Coordinated Regulation of PKA and JNK. Adipocyte. 2020; 9:1, 454-471
2. Puckett D, Alquraishi M, Alani DA, Chahed S, Donohoe DR, Voy BH, Whelan J, and Bettaieb A. Zyflamend Induces Apoptosis in Pancreatic Cancer cells via Modulation of the JNK Pathway. Cell Communication and Signaling. 2020; 9:1, 454-471
3. Alquraishi, M., Donohoe, D., Voy, B.H., et al. (2019). Decreased adiposity and enhanced glucose tolerance in Zyflamend treated mice. The FASEB Journal 33, 754.755-754.755.
4. MacDonald, A.F., Bettaieb, A., Donohoe, D.R., et al. (2018). Concurrent regulation of LKB1 and CaMKK2 in the activation of AMPK in castrate-resistant prostate cancer by a well-defined polyherbal mixture with anticancer properties. BMC complementary and alternative medicine 18, 188.
5. Overby, H., Zu, Y., Wang, S., et al. (2017). Nanoparticles encapsulated with resveratrol induce browning of white adipocytes. The FASEB Journal 31, 44.43-44.43.
6. Bettaieb A, Koike S, Hsu MF, Ito Y, Chahed S, Bachaalany S, Gruzdev A, Calvo-Rubio M, Lee KSS, Inceoglu B, Imig JD, Villalba JM, Zeldin DC, Haj FG, Hammock BD. Soluble epoxide hydrolase in podocytes is a significant contributor to renal function under hyperglycemia. Biochim Biophys Acta. 2017. PubMed PMID: 28757338.
7. **Research papers:**

Complete list of publications:

<https://www.ncbi.nlm.nih.gov/myncbi/16o7gUz8_0CQn/bibliography/public/>

1. ***Bettaieb, A.***  & Averill-Bates, D. A. (2005) Thermotolerance induced at a mild temperature of 40 degrees C protects cells against heat shock-induced apoptosis, Journal of cellular physiology. 205, 47-57.

2. ***Bettaieb, A.***  & Averill-Bates, D. A. (2008) Thermotolerance induced at a fever temperature of 40 degrees C protects cells against hyperthermia-induced apoptosis mediated by death receptor signalling, Biochemistry and cell biology = Biochimie et biologie cellulaire. 86, 521-38.

3. Wrzal, P. K., ***Bettaieb, A.***  & Averill-Bates, D. A. (2008) Molecular mechanisms of apoptosis activation by heat shock in multidrug-resistant Chinese hamster cells, Radiation research. 170, 498-511.

4. Roy, J., Pallepati, P., ***Bettaieb, A.,***  Tanel, A. & Averill-Bates, D. A. (2009) Acrolein induces a cellular stress response and triggers mitochondrial apoptosis in A549 cells, Chemico-biological interactions. 181, 154-67.

5. Matsuo, K., Delibegovic, M., Matsuo, I., Nagata, N., Liu, S., ***Bettaieb, A.,***  Xi, Y., Araki, K., Yang, W., Kahn, B. B., Neel, B. G. & Haj, F. G. (2010) Altered glucose homeostasis in mice with liver-specific deletion of Src homology phosphatase 2, The Journal of biological chemistry. 285, 39750-8.

6. Roy, J., Pallepati, P., ***Bettaieb, A.***  & Averill-Bates, D. A. (2010) Acrolein induces apoptosis through the death receptor pathway in A549 lung cells: role of p53, Can J Physiol Pharmacol. 88, 353-68.

7. ***Bettaieb, A.,***  Liu, S., Xi, Y., Nagata, N., Matsuo, K., Matsuo, I., Chahed, S., Bakke, J., Keilhack, H., Tiganis, T. & Haj, F. G. (2011) Differential regulation of endoplasmic reticulum stress by protein tyrosine phosphatase 1B and T cell protein tyrosine phosphatase, The Journal of biological chemistry. 286, 9225-35.

8. ***Bettaieb, A.,***  Matsuo, K., Matsuo, I., Nagata, N., Chahed, S., Liu, S. & Haj, F. G. (2011) Adipose-specific deletion of Src homology phosphatase 2 does not significantly alter systemic glucose homeostasis, Metabolism: clinical and experimental. 60, 1193-201.

9. Cummings, B. P., ***Bettaieb, A.,***  Graham, J. L., Stanhope, K. L., Dill, R., Morton, G. J., Haj, F. G. & Havel, P. J. (2011) Subcutaneous administration of leptin normalizes fasting plasma glucose in obese type 2 diabetic UCD-T2DM rats, Proceedings of the National Academy of Sciences of the United States of America. 108, 14670-5.

10. Luria, A., ***Bettaieb, A.,***  Xi, Y., Shieh, G. J., Liu, H. C., Inoue, H., Tsai, H. J., Imig, J. D., Haj, F. G. & Hammock, B. D. (2011) Soluble epoxide hydrolase deficiency alters pancreatic islet size and improves glucose homeostasis in a model of insulin resistance, Proceedings of the National Academy of Sciences of the United States of America. 108, 9038-43.

11. Matsuo, K., ***Bettaieb, A.,***  Nagata, N., Matsuo, I., Keilhack, H. & Haj, F. G. (2011) Regulation of brown fat adipogenesis by protein tyrosine phosphatase 1B, PloS one. 6, e16446.

12. ***Bettaieb, A.,***  Matsuo, K., Matsuo, I., Wang, S., Melhem, R., Koromilas, A. E. & Haj, F. G. (2012) Protein tyrosine phosphatase 1B deficiency potentiates PERK/eIF2alpha signaling in brown adipocytes, PloS one. 7, e34412.

13. Cummings, B. P., ***Bettaieb, A.,***  Graham, J. L., Stanhope, K. L., Kowala, M., Haj, F. G., Chouinard, M. L. & Havel, P. J. (2012) Vertical sleeve gastrectomy improves glucose and lipid metabolism and delays diabetes onset in UCD-T2DM rats, Endocrinology. 153, 3620-32.

14. Inceoglu, B., Wagner, K. M., Yang, J., ***Bettaieb, A.,***  Schebb, N. H., Hwang, S. H., Morisseau, C., Haj, F. G. & Hammock, B. D. (2012) Acute augmentation of epoxygenated fatty acid levels rapidly reduces pain-related behavior in a rat model of type I diabetes, Proceedings of the National Academy of Sciences of the United States of America. 109, 11390-5.

15. Nagata, N., Matsuo, K., ***Bettaieb, A.,***  Bakke, J., Matsuo, I., Graham, J., Xi, Y., Liu, S., Tomilov, A., Tomilova, N., Gray, S., Jung, D. Y., Ramsey, J. J., Kim, J. K., Cortopassi, G., Havel, P. J. & Haj, F. G. (2012) Hepatic Src homology phosphatase 2 regulates energy balance in mice, Endocrinology. 153, 3158-69.

16. Vazquez-Prieto, M. A., ***Bettaieb, A.,***  Haj, F. G., Fraga, C. G. & Oteiza, P. I. (2012) (-)-Epicatechin prevents TNFalpha-induced activation of signaling cascades involved in inflammation and insulin sensitivity in 3T3-L1 adipocytes, Archives of biochemistry and biophysics. 527, 113-8.

17. Bakke, J., ***Bettaieb, A.,***  Nagata, N., Matsuo, K. & Haj, F. G. (2013) Regulation of the SNARE-interacting protein Munc18c tyrosine phosphorylation in adipocytes by protein-tyrosine phosphatase 1B, Cell communication and signaling : CCS. 11, 57.

18. ***Bettaieb, A.,***  Bakke, J., Nagata, N., Matsuo, K., Xi, Y., Liu, S., AbouBechara, D., Melhem, R., Stanhope, K., Cummings, B., Graham, J., Bremer, A., Zhang, S., Lyssiotis, C. A., Zhang, Z. Y., Cantley, L. C., Havel, P. J. & Haj, F. G. (2013) Protein tyrosine phosphatase 1B regulates pyruvate kinase M2 tyrosine phosphorylation, The Journal of biological chemistry. 288, 17360-71.

19. ***Bettaieb, A.,***  Nagata, N., AbouBechara, D., Chahed, S., Morisseau, C., Hammock, B. D. & Haj, F. G. (2013) Soluble epoxide hydrolase deficiency or inhibition attenuates diet-induced endoplasmic reticulum stress in liver and adipose tissue, The Journal of biological chemistry. 288, 14189-99.

20. Cummings, B. P., ***Bettaieb, A.,***  Graham, J. L., Kim, J., Ma, F., Shibata, N., Stanhope, K. L., Giulivi, C., Hansen, F., Jelsing, J., Vrang, N., Kowala, M., Chouinard, M. L., Haj, F. G. & Havel, P. J. (2013) Bile-acid-mediated decrease in endoplasmic reticulum stress: a potential contributor to the metabolic benefits of ileal interposition surgery in UCD-T2DM rats, Dis Model Mech. 6, 443-56.

21. Lackey, D. E., Lynch, C. J., Olson, K. C., Mostaedi, R., Ali, M., Smith, W. H., Karpe, F., Humphreys, S., Bedinger, D. H., Dunn, T. N., Thomas, A. P., Oort, P. J., Kieffer, D. A., Amin, R., ***Bettaieb, A.,***  Haj, F. G., Permana, P., Anthony, T. G. & Adams, S. H. (2013) Regulation of adipose branched-chain amino acid catabolism enzyme expression and cross-adipose amino acid flux in human obesity, American journal of physiology Endocrinology and metabolism. 304, E1175-87.

22. Wang, Y. I., ***Bettaieb, A.,***  Sun, C., DeVerse, J. S., Radecke, C. E., Mathew, S., Edwards, C. M., Haj, F. G., Passerini, A. G. & Simon, S. I. (2013) Triglyceride-rich lipoprotein modulates endothelial vascular cell adhesion molecule (VCAM)-1 expression via differential regulation of endoplasmic reticulum stress, PloS one. 8, e78322.

23. ***Bettaieb, A.,*** Chahed, S., Tabet, G., Yang, J., Morisseau, C., Griffey, S., Hammock, B. D. & Haj, F. G. (2014) Effects of soluble epoxide hydrolase deficiency on acute pancreatitis in mice, PloS one. 9, e113019.

24. ***Bettaieb, A.,*** Morisseau, C., Hammock, B. & Haj, F. (2014) Soluble epoxide hydrolase deficiency ameliorates acute pancreatitis in mice, Free radical biology & medicine. 75 Suppl 1, S32.

25. ***Bettaieb, A.,***  Vazquez Prieto, M. A., Rodriguez Lanzi, C., Miatello, R. M., Haj, F. G., Fraga, C. G. & Oteiza, P. I. (2014) (-)-Epicatechin mitigates high-fructose-associated insulin resistance by modulating redox signaling and endoplasmic reticulum stress, Free radical biology & medicine. 72, 247-56.

26. ***Bettaieb, A.,***  Xi, Y., Hosein, E., Coggins, N., Bachaalany, S., Wiede, F., Perez, S., Griffey, S. M., Sastre, J., Tiganis, T. & Haj, F. G. (2014) Pancreatic T cell protein-tyrosine phosphatase deficiency ameliorates cerulein-induced acute pancreatitis, Cell communication and signaling : CCS. 12, 13.

27. Cummings, B. P., ***Bettaieb, A.,***  Graham, J. L., Stanhope, K., Haj, F. G. & Havel, P. J. (2014) Administration of pioglitazone alone or with alogliptin delays diabetes onset in UCD-T2DM rats, The Journal of endocrinology. 221, 133-44.

28. Glory, A., ***Bettaieb, A.***  & Averill-Bates, D. A. (2014) Mild thermotolerance induced at 40 degrees C protects cells against hyperthermia-induced pro-apoptotic changes in Bcl-2 family proteins, International journal of hyperthermia : the official journal of European Society for Hyperthermic Oncology, North American Hyperthermia Group. 30, 502-12.

29. Liu, S., Xi, Y., ***Bettaieb, A.,***  Matsuo, K., Matsuo, I., Kulkarni, R. N. & Haj, F. G. (2014) Disruption of protein-tyrosine phosphatase 1B expression in the pancreas affects beta-cell function, Endocrinology. 155, 3329-38.

30. Tanel, A., Pallepati, P., ***Bettaieb, A.,***  Morin, P. & Averill-Bates, D. A. (2014) Acrolein activates cell survival and apoptotic death responses involving the endoplasmic reticulum in A549 lung cells, Biochimica et biophysica acta. 1843, 827-35.

31. Tomilov, A., ***Bettaieb, A.,***  Kim, K., Sahdeo, S., Tomilova, N., Lam, A., Hagopian, K., Connell, M., Fong, J., Rowland, D., Griffey, S., Ramsey, J., Haj, F. & Cortopassi, G. (2014) Shc depletion stimulates brown fat activity in vivo and in vitro, Aging cell. 13, 1049-58.

32. Warden, C. H., Slupsky, C., Griffey, S. M., ***Bettaieb, A.,***  Min, E., Le, A., Fisler, J. S., Hansen, S., Haj, F. & Stern, J. S. (2014) Brown Norway chromosome 1 congenic reduces symptoms of renal disease in fatty Zucker rats, PloS one. 9, e87770.

33. ***Bettaieb, A.***  & Averill-Bates, D. A. (2015) Thermotolerance induced at a mild temperature of 40 degrees C alleviates heat shock-induced ER stress and apoptosis in HeLa cells, Biochimica et biophysica acta. 1853, 52-62.

34. ***Bettaieb, A.,***  Chahed, S., Bachaalany, S., Griffey, S., Hammock, B. D. & Haj, F. G. (2015) Soluble Epoxide Hydrolase Pharmacological Inhibition Ameliorates Experimental Acute Pancreatitis in Mice, Molecular pharmacology. 88, 281-90.

35. ***Bettaieb, A.,***  Hosein, E., Chahed, S., Abdulaziz, A., Kucera, H. R., Gaikwad, N. W. & Haj, F. G. (2015) Decreased adiposity and enhanced glucose tolerance in shikonin treated mice, Obesity (Silver Spring, Md. 23, 2269-77.

36. ***Bettaieb, A.,***  Jiang, J. X., Sasaki, Y., Chao, T. I., Kiss, Z., Chen, X., Tian, J., Katsuyama, M., Yabe-Nishimura, C., Xi, Y., Szyndralewiez, C., Schroder, K., Shah, A., Brandes, R. P., Haj, F. G. & Torok, N. J. (2015) Hepatocyte Nicotinamide Adenine Dinucleotide Phosphate Reduced Oxidase 4 Regulates Stress Signaling, Fibrosis, and Insulin Sensitivity During Development of Steatohepatitis in Mice, Gastroenterology. 149, 468-80.e10.

37. Harris, T. R., ***Bettaieb, A.,***  Kodani, S., Dong, H., Myers, R., Chiamvimonvat, N., Haj, F. G. & Hammock, B. D. (2015) Inhibition of soluble epoxide hydrolase attenuates hepatic fibrosis and endoplasmic reticulum stress induced by carbon tetrachloride in mice, Toxicology and applied pharmacology. 286, 102-11.

38. Inceoglu, B., ***Bettaieb, A.,***  Trindade da Silva, C. A., Lee, K. S., Haj, F. G. & Hammock, B. D. (2015) Endoplasmic reticulum stress in the peripheral nervous system is a significant driver of neuropathic pain, Proceedings of the National Academy of Sciences of the United States of America. 112, 9082-7.

39. Jialal, I., Devaraj, S., ***Bettaieb, A.,*** Haj, F. & Adams-Huet, B. (2015) Increased adipose tissue secretion of Fetuin-A, lipopolysaccharide-binding protein and high-mobility group box protein 1 in metabolic syndrome, Atherosclerosis. 241, 130-7.

40. Vazquez Prieto, M. A., ***Bettaieb, A.,*** Rodriguez Lanzi, C., Soto, V. C., Perdicaro, D. J., Galmarini, C. R., Haj, F. G., Miatello, R. M. & Oteiza, P. I. (2015) Catechin and quercetin attenuate adipose inflammation in fructose-fed rats and 3T3-L1 adipocytes, Molecular nutrition & food research. 59, 622-33.

41. Xi, Y., Liu, S., ***Bettaieb, A.,*** Matsuo, K., Matsuo, I., Hosein, E., Chahed, S., Wiede, F., Zhang, S., Zhang, Z. Y., Kulkarni, R. N., Tiganis, T. & Haj, F. G. (2015) Pancreatic T cell protein-tyrosine phosphatase deficiency affects beta cell function in mice, Diabetologia. 58, 122-31.

42. ***Bettaieb, A.,*** Cremonini, E., Kang, H., Kang, J., Haj, F. G. & Oteiza, P. I. (2016) Anti-inflammatory actions of (-)-epicatechin in the adipose tissue of obese mice, The international journal of biochemistry & cell biology. 81, 383-392.

43. ***Bettaieb, A.,*** Koike, S., Chahed, S., Bachaalany, S., Griffey, S., Sastre, J. & Haj, F. G. (2016) Pancreatic Protein Tyrosine Phosphatase 1B Deficiency Exacerbates Acute Pancreatitis in Mice, The American journal of pathology. 186, 2043-2054.

44. Cremonini, E., ***Bettaieb, A.,***  Haj, F. G., Fraga, C. G. & Oteiza, P. I. (2016) (-)-Epicatechin improves insulin sensitivity in high fat diet-fed mice, Archives of biochemistry and biophysics. 599, 13-21.

45. Sirish, P., Li, N., Timofeyev, V., Zhang, X. D., Wang, L., Yang, J., Lee, K. S., ***Bettaieb, A.,***  Ma, S. M., Lee, J. H., Su, D., Lau, V. C., Myers, R. E., Lieu, D. K., Lopez, J. E., Young, J. N., Yamoah, E. N., Haj, F., Ripplinger, C. M., Hammock, B. D. & Chiamvimonvat, N. (2016) Molecular Mechanisms and New Treatment Paradigm for Atrial Fibrillation, Circ Arrhythm Electrophysiol. 9.

46. Tomilov, A., Tomilova, N., Shan, Y., Hagopian, K., ***Bettaieb, A.,***  Kim, K., Pelicci, P. G., Haj, F., Ramsey, J. & Cortopassi, G. (2016) p46Shc Inhibits Thiolase and Lipid Oxidation in Mitochondria, The Journal of biological chemistry. 291, 12575-85.

47. ***Bettaieb, A.,***  Koike, S., Chahed, S., Zhao, Y., Bachaalany, S., Hashoush, N., Graham, J., Fatima, H., Havel, P. J., Gruzdev, A., Zeldin, D. C., Hammock, B. D. & Haj, F. G. (2017) Podocyte-specific soluble epoxide hydrolase deficiency in mice attenuates acute kidney injury, The FEBS journal. 284, 1970-1986.

48. ***Bettaieb, A.,***  Koike, S., Hsu, M. F., Ito, Y., Chahed, S., Bachaalany, S., Gruzdev, A., Calvo-Rubio, M., Lee, K. S. S., Inceoglu, B., Imig, J. D., Villalba, J. M., Zeldin, D. C., Hammock, B. D. & Haj, F. G. (2017) Soluble epoxide hydrolase in podocytes is a significant contributor to renal function under hyperglycemia, Biochimica et biophysica acta. 1861, 2758-2765.

49. Hsu, M. F., ***Bettaieb, A.,***  Ito, Y., Graham, J., Havel, P. J. & Haj, F. G. (2017) Protein tyrosine phosphatase Shp2 deficiency in podocytes attenuates lipopolysaccharide-induced proteinuria, Scientific reports. 7, 461.

50. Inceoglu, B., ***Bettaieb, A.,***  Haj, F. G., Gomes, A. V. & Hammock, B. D. (2017) Modulation of mitochondrial dysfunction and endoplasmic reticulum stress are key mechanisms for the wide-ranging actions of epoxy fatty acids and soluble epoxide hydrolase inhibitors, Prostaglandins & other lipid mediators. 133, 68-78.

51. Ito, Y., Hsu, M. F., ***Bettaieb, A.,***  Koike, S., Mello, A., Calvo-Rubio, M., Villalba, J. M. & Haj, F. G. (2017) Protein tyrosine phosphatase 1B deficiency in podocytes mitigates hyperglycemia-induced renal injury, Metabolism: clinical and experimental. 76, 56-69.

52. Johnstone, M., Bennett, N., Standifer, C., Smith, A., Han, A., ***Bettaieb, A.,***  Whelan, J. & Donohoe, D. R. (2017) Characterization of the Pro-Inflammatory Cytokine IL-1beta on Butyrate Oxidation in Colorectal Cancer Cells, Journal of cellular biochemistry. 118, 1614-1621.

53. McGavigan, A. K., Garibay, D., Henseler, Z. M., Chen, J., ***Bettaieb, A.,***  Haj, F. G., Ley, R. E., Chouinard, M. L. & Cummings, B. P. (2017) TGR5 contributes to glucoregulatory improvements after vertical sleeve gastrectomy in mice, Gut. 66, 226-234.

54. Trindade-da-Silva, C. A., ***Bettaieb, A.,***  Napimoga, M. H., Lee, K. S. S., Inceoglu, B., Ueira-Vieira, C., Bruun, D., Goswami, S. K., Haj, F. G. & Hammock, B. D. (2017) Soluble Epoxide Hydrolase Pharmacological Inhibition Decreases Alveolar Bone Loss by Modulating Host Inflammatory Response, RANK-Related Signaling, Endoplasmic Reticulum Stress, and Apoptosis, The Journal of pharmacology and experimental therapeutics. 361, 408-416.

55. Warden, C. H., ***Bettaieb, A.,***  Min, E., Fisler, J. S., Haj, F. G. & Stern, J. S. (2017) Chow fed UC Davis strain female Lepr fatty Zucker rats exhibit mild glucose intolerance, hypertriglyceridemia, and increased urine volume, all reduced by a Brown Norway strain chromosome 1 congenic donor region, PloS one. 12, e0188175.

56. Cremonini, E., Wang, Z., ***Bettaieb, A.,***  Adamo, A. M., Daveri, E., Mills, D. A., Kalanetra, K. M., Haj, F. G., Karakas, S. & Oteiza, P. I. (2018) (-)-Epicatechin protects the intestinal barrier from high fat diet-induced permeabilization: Implications for steatosis and insulin resistance, Redox Biol. 14, 588-599.

57. Han, A., Bennett, N., ***Bettaieb, A.,*** Whelan, J. & Donohoe, D. R. (2018) Butyrate decreases its own oxidation in colorectal cancer cells through inhibition of histone deacetylases, Oncotarget. 9, 27280-27292.

58. MacDonald, A. F., ***Bettaieb, A.,***  Donohoe, D. R., Alani, D. S., Han, A., Zhao, Y. & Whelan, J. (2018) Concurrent regulation of LKB1 and CaMKK2 in the activation of AMPK in castrate-resistant prostate cancer by a well-defined polyherbal mixture with anticancer properties, BMC complementary and alternative medicine. 18, 188.

59. Tomilov A, Allen S, Hui CK, ***Bettaieb A***, Cortopassi G. Idebenone is a cytoprotective insulin sensitizer whose mechanism is Shc inhibition. Pharmacol Res. 2018;137:89-103.

60. Alquraishi M, Puckett DL, Alani DS, Humidat AS, Frankel VD, Donohoe DR, Whelan J, ***Bettaieb A***. Pyruvate kinase M2: a simple molecule with complex functions. Free Radic Biol Med. 2019; 143:176-192.

**B. Book Chapter**

2012: ***Ahmed Bettaieb,*** Paulina Wrzal and Diana Averill-Bates. Book title: Current Cancer Treatment - Novel Beyond Conventional Approaches Chapter title: Hyperthermia: Cancer Treatment and Beyond.

**C. Oral and Poster Presentations**

2003- ***A. Bettaieb***, D.A. Averill-Bates. Protection against apoptosis by thermotolerance induced At 40°C. 1st International Congress on Stress Responses in Biology and Medicine. Mount Saint-Anne castle, QC, Canada.

2003- ***A. Bettaieb***, D.A. Averill-Bates. Thermotolerance protects cells against apoptosis induced by oxidative stress and heat shock. 28th Congress of the Biologist association of Quebec. Montreal, QC, Canada.

2003- ***A. Bettaieb***, D.A. Averill-Bates.; Molecular mechanisms of cytotoxicity induced by hyperthermia. Annual meeting of TOXEN Center. Montreal, QC, Canada.

2003- D.A. Averill-Bates, ***A. Bettaieb***, Hyperthermia and anticancer drugs; ways to oxidative stress. University of Iowa. Iowa, IA, USA.

2003- D.A. Averill-Bates, ***A. Bettaieb***. The induction of apoptosis by hyperthermia in HeLa cells. University of Montreal. Montréal, QC, Canada.

2003- D.A. Averill-Bates, ***A. Bettaieb***. Thermotolerance protects cells against apoptosis induced by oxidative stress and heat shock. 10th Annual Meeting of the Society for Free Radical & Medicine. Seattle, WA, USA.

2004- ***A. Bettaieb***, D.A Averill-Bates. Thermotolerance protects cells against apoptosis induced by oxidative stress a d heat shock. 4th Annual Meeting of the Oxidative Stress Consortium on Health and Disease. Toronto, Canada.

2004- ***A. Bettaieb***, D.A. Averill-Bates. Thermotolerance protects cells against apoptosis induced by oxidative stress and heat shock. Annual meeting of TOXEN Center. Montreal, QC, Canada.

2004- ***A. Bettaieb***, D.A. Averill-Bates. Thermotolerance protects cells against apoptosis induced by oxidative stress and heat shock. 4th Oxidative Stress Consortium Meeting. Montreal, QC, Canada. D.A.

2004- D.A. Averill-Bates, ***A. Bettaieb***. Induction of apoptosis by heat shock: relevance to cancer. 4th Canadian Oxidative Stress Consortium. Montreal, QC, Canada.

2005- ***A. Bettaieb***, D.A. Averill-Bates. Hyperthermia induces apoptosis via the cell death receptor Fas pathway. Annual Meeting of TOXEN Center. Montreal, QC, Canada.

2005- D.A. Averill-Bates, ***A. Bettaieb***. Thermotolerance induced at a mild temperature of 40°C protects cells against heat shock-induced apoptosis, poster presentation. Society for Thermal Medicine Workshop on Thermal Medicine Heat Shock Proteins and Cancer. NIH Natcher Center Bethesda, MD, USA.

2005- M.E. Ouellette, ***A. Bettaieb***, D.A. Averill-Bates. Pro-apoptotic properties of carnosic acid. Annual Meeting of TOXEN Center. Montreal, QC, Canada.

2006- ***A. Bettaieb***, D.A. Averill-Bates. Thermotolerance protects HeLa cells against Fas/Apo-1 mediated apoptosis induced by heat shock. Annual Meeting of BioMed Center. Montreal, QC, Canada.

2006- D.A. Averill-Bates. ***A. Bettaieb***. Thermotolerance protects cells against Fas/Apo-1 mediated apoptosis induced by heat shock. Annual Meeting of the Society for Thermal Medicine (formerly the North American Hyperthermia Society-NAHS). Bethesda, MD, USA.

2006- D.A. Averill-Bates., ***A. Bettaieb***, Z. Wang. Role of oxidative stress in hyperthermia-induced Apoptosis. Annual Meeting of the Society for Thermal Medicine. Washington, DC, USA.

2007- ***A. Bettaieb***, D.A. Averill-Bates. Carnosic acid induces apoptosis of HeLa cells via death receptor and mitochondrial pathways. 5th Canadian Oxidative Stress Consortium Meeting. Montreal, QC, Canada.

2007- ***A. Bettaieb***, D.A. Averill-Bates.; Thermotolerance protects HeLa cells against Fas/Apo-1 mediated apoptosis induced by heat shock. 5th Canadian Oxidative Stress Consortium Meeting. Montreal, QC, Canada.

2007- ***A. Bettaieb***, D.A. Averill-Bates. Protective effects of thermotolerance against alterations of calcium homeostasis by lethal heat shock. Annual Meeting of TOXEN Center. Montreal, QC, Canada.

2007- ***A. Bettaieb***, D.A. Averill-Bates. Thermotolerance protects HeLa cells against Fas/Apo-1 mediated apoptosis induced by heat shock. 9th Annual Chemistry and Biochemistry. Graduate Research Conference, Concordia University. Montreal, QC, Canada.

2007- Y. Zilber, ***A. Bettaieb***, D.A. Averill-Bates. Acrolein induces apoptosis via endoplasmic reticulum stress in A549 cells. 9th Annual Chemistry and Biochemistry. Graduate Research Conference, Concordia University. Montreal, QC, Canada.

2007- ***A. Bettaieb***, D.A. Averill-Bates. Thermotolerance: the other side of hyperthermia. Annual Meeting of TOXEN Center. Montreal, QC, Canada.

2007- ***A. Bettaieb***, M.E. Ouellette, D.A. Averill-Bates. Carnosic acid induces apoptosis of HeLa cells via death receptor and mitochondrial pathways. Annual Meeting of TOXEN Center. Montreal, QC, Canada.

2008- D.A. Averill-Bates, J. Roy, ***A. Bettaieb***. Role of p53 in acrolein induced apoptosis in A549 cells. 15th Annual Meeting of the Society for Free Radical & Medicine. San Francisco, CA, USA.

2009- D.A. Averill-Bates, J. Roy, A. Tanel, P. Pallepati, ***A. Bettaieb***. Activation of apoptotic signalling cascades by the lipid peroxidation-derived aldehyde acrolein: implication for human health. 6th meeting of the Canadian Oxidative Stress Consortium. Winnipeg, Canada.

2010- ***A. Bettaieb***, Kinkhabwala, C. Schultz, B. Neel, P. Bastiaens, F.G. Haj. Dynamic regulation of signaling at regions of cell-cell contact by endoplasmic reticulum-bound protein-tyrosine phosphatase 1B. Oxygen Club of California Annual Meeting. Santa Barbara, CA, USA.

2012- ***A. Bettaieb***, K. Matsuo, I. Matsuo, F.G. Haj. Adipose-specific deletion of protein-tyrosine phosphatase 1b alters energy balance in mice. 94th Annual Meeting of the Endocrine Society. Houston, TX, USA

2012- E. Cremonini, ***A. Bettaieb***, M.A. Vazquez Prieto, C. Cervellati, F.G. Haj, P.I. Oteiza. (−)-Epicatechin prevents TNFα-induced activation of signaling cascades involved in inflammation and insulin sensitivity in 3T3-L1 adipocytes. 5th International Conference on Polyphenols and Health. Sitges, Spain.

2013- ***A. Bettaieb***, J. Bakke, N. Nagata, K. Matsuo, L. Cantley, P. Havel, F.G. Haj. New insights into metabolic regulation by Protein-Tyrosine Phosphatase 1B. 5th International Symposium in Nutrition and free radicals biology. Paris, France.

2013- E. Cremonini, ***A. Bettaieb***, M.A. Vazquez Prieto, C. Cervellati, F.G. Haj, P.I. Oteiza. (-)-Epicatechin and its metabolites in the modulation of hepatic NADPH oxidase. 5th International Symposium in Nutrition and free radicals biology. Paris, France.

2013- E. Cremonini, ***A. Bettaieb***, C. Cervellati, F.G. Haj, M.A. Vazquez Prieto, P.I. Oteiza. (-)-Epicatechin and its metabolites inhibit hyperlipidemia-induced oxidative stress through the transcriptional and post trascriptional modulation of NADPH oxidase. 6th International congress Polyphenols and Health, Buenos Aires, Brazil.

2014- ***A. Bettaieb***, Y. Xi, E. Hosein, N. Coggins, S. Bachaalany, F. Wiede, S. Perez, S. M Griffey, J. Sastre, T. Tiganis, and F.G. Haj. Pancreatic T cell protein-tyrosine phosphatase deficiency ameliorates cerulein-induced acute pancreatitis. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2014- E. Cremonini, ***A. Bettaieb***, C. Cervellati, F.G. Haj, M.A. Vazquez Prieto, P.I. Oteiza. (-)-Epicatechin modulates hepatic redox-sensitive signals in animal and cell models of metabolic syndrome. 17th Biannual Meeting of Society for Free Radical International Research. Kyoto, Japan.

2014- E. Cremonini, ***A. Bettaieb***, F.G. Haj, P. Oteiza. Effects of (-)-epicatechin on hepatic redox-signaling and insulin sensitivity in in vitro and in vivo obesity models. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2014- E. Cremonini, ***A. Bettaieb***, L. Billiard, F.G. Haj, C.F. Fraga, P.I. Oteiza. Dietary (-)-epicatechin supplementation improves insulin sensitivity by modulation redox-sensitive signals. 3rd International Conference of Cellular Environmental stress in biology and medicine. Ferrara, Italy.

2014- E. Cremonini, ***A. Bettaieb***, M. A. Vazquez Prieto, L. Billiard, F.G. Haj, C. G. Fraga, P. I. Oteiza. (-)-Epicatechin mitigates insulin resistance by modulating redox-sensitive signals in animal models of metabolic syndrome. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2014- M.F. Hsu, ***A. Bettaieb***, S. Chahed, G. Tabet, C. Morisseau, S. Griffey, B.D. Hammock, F.G. Haj. Soluble epoxide hydrolase deficiency ameliorates cerulein-induced acute pancreatitis in mice. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2014- Y. Ito, S. Chahed, S. Koike, S. Baachaalany, ***A. Bettaieb***, F.G. Haj. PTP1B deficiency exacerbates cerulein-induced acute pancreatitis in mice. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2014-***A. Bettaieb***, J. Bakke, N. Nagata, K. Matsuo, Y. Xi,1, S. Liu,1, D. A. Bechara, R. Melhem, K. Stanhope, B. Cummings, J. Graham, A. Bremer, S. Zhang, C. A. Lyssiotis, Z.Y. Zhang, L. C. Cantley, P. J. Havel, F.G. Haj. Protein-tyrosine phosphatase 1B regulates pyruvate kinase M2 tyrosine phosphorylation. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2014-A. Tomilov, ***A. Bettaieb***, K. Kim, S. Sahdeo, N. Tomilova, A. Lam, K. Hagopian, M. Conell, J. Fong, D. Ronald, S. Griffey, J. Ramsey, F.G. Haj, G. Cortopassi. SHC depletion stimulates brown fat activity in-vivo and in-vitro. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2014-J. Bakke, ***A. Bettaieb***, N. Nagata, K. Matsuo, F.G. Haj. SNARE-protein, munc18c, is regulated by protein tyrosine phosphatase 1b in adipocytes. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2015- E. Cremonini, ***A. Bettaieb***, F.G. Haj, P.I. Oteiza. (-)-Epicatechin improves hepatic insulin sensitivity and redox-signaling in in vitro and in vivo obesity models. 7th International Conference on Polyphenols and Health. Tours, France.

2015- E. Cremonini, ***A. Bettaieb***, F.G. Haj, P.I. Oteiza. Effects of (-)-Epicatechin on hepatic redox-signaling and insulin sensitivity in in vitro and in vivo obesity models. Oxygen Club of California Annual Meeting. Valencia, Spain.

2015- F.G. Haj, ***A. Bettaieb***, B.D. Hammock. Targeting diabetic nephropathy through podocyte-specific soluble epoxide hydrolase deficiency in mice. Oxygen Club of California Annual Meeting. Valencia, Spain.

*Research conducted prior to UT but submitted while at UT*

2016- ***A. Bettaieb***, M.F. Hsu, Y. Ito, S. Chahed, S. Bachaalany, M. C. Rubio, B. Inceoglu, K.S.S. Lee, A. Gruzdev, J. M. Villalba, Darryl C. Zeldin, B.D. Hammock, F.G. Haj. Soluble epoxide hydrolase podocyte deficiency protects against hyperglycemia-induced renal injury and improves systemic glucose homeostasis. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2016- ***A. Bettaieb***, S. Koike, S. Chahed, S.M. Bachaalany, J. Graham, P.J. Havel, D.C. Zeldin, B.D. Hammock, F.G. Haj. Soluble epoxide hydrolase deficiency in the glomerular podocytes attenuates lipopolysaccharide-induced proteinuria. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2016- F. Haj, ***A. Bettaieb***. ER Stress as a Possible Unifying Mechanism for the Action of EETs and Other Regulatory Lipids for Diabetes and Associated Diseases. International Winter Eicosanoid Conference. Baltimore, MD. USA.

2016- F.G. Haj, ***A. Bettaieb*** and B.D. Hammock Targeting diabetic nephropathy through podocyte-specific soluble epoxide hydrolase deficiency in mice. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2016- S. M. Bachaalany, ***A. Bettaieb***, S. Chahed, S. Griffey, B.D. Hammock, F.G. Haj. Soluble epoxide hydrolase pharmacological inhibition ameliorates experimental acute pancreatitis in mice. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2016- Z. Wang, E. Cremonini, ***A. Bettaieb***, F.G. Haj, P. I. Oteiza. (-)-Epicatechin prevents high-fat diet-induced intestinal permeabilization and endotoxemia in mice: a link to insulin sensitivity. Oxygen Club of California Annual Meeting. Davis, CA, USA.

2016- Z. Wang, E. Cremonini, ***A. Bettaieb***, F.G. Haj, and P. I. Oteiza. (-)-Epicatechin prevents high-fat diet-induced intestinal permeabilization and insulin resistance in mice. Experimental Biology Annual Meeting. Los Angeles, CA.USA.

2016- ***A. Bettaieb***, S. Chahed, S.M. Bachaalany, S. Griffey, B.D. Hammock, F.G. Haj. Pharmacological Inhibition of Soluble Epoxide Hydrolase Ameliorates Experimental Acute Pancreatitis in Mice. Experimental Biology Annual Meeting. Los Angeles, CA.USA.

2016- K. Whitehead, S. Chahed, S. Koike, S.M. Bachaalany, F. Haj, ***A. Bettaieb***. Pancreatic Protein Tyrosine Phosphatase 1B Deficiency Exacerbates Acute Pancreatitis in Mice. Experimental Biology Annual Meeting. Los Angeles, CA.USA.

2016- C.H. Warden, ***A. Bettaieb***, E. Min, F.G. Haj, J.S. Stern Effects Of Body And Fat Depot Weights On Quantitative Levels Of Kidney Expressed Kidney Disease Genes In Lean And Obese, Male And Female Zucker Rats. 13th International Congress on Obesity. Vancouver, Canada.

2016- ***Bettaieb A***. Beige can be slimming, new insights into the metabolic functions of adipose Pyruvate kinase M2. Los Angeles, CA. Global summit on Obesity and Diet management. September 2016.

2016- MacDonald, Zhao Yi, Han A, D. R. Donohoe, ***Bettaieb A***, J.Whelan. A combination of herbal extracts increases LKB1-dependent activation of AMPK in a model of advanced prostate cancer. Poster Presentation at the 25th annual American Institute for Cancer Research. Bethesda, MD.

2017- ***Bettaieb A***. New insights into the metabolic functions of protein tyrosine phosphatase 1B. Spring 2017 BCMB Graduate Research Colloquium, UT, Knoxville, TN.

2017- Frankel V and ***Bettaieb A***. Podocyte-specific soluble epoxide hydrolase deficiency attenuates lipopolysaccharide-induced renal injury. National Conference on Undergraduate Research (NCUR), April 2017, Memphis, TN

2017- Puckett D and ***Bettaieb A***. Anti-inflammatory actions of (-)-epicatechin in the adipose tissue of obese mice. National Conference on Undergraduate Research (NCUR), April 2017, Memphis, TN.

2017- Frankel V and ***Bettaieb A***. Effects of Zyflamend Treatment on Adipogenesis. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), April 2017. UT, Knoxville TN.

2017- Puckett D and ***Bettaieb A***. Improved glycemic control in mice with specific deletion of Pyruvate kinase M2 in the pancreas. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), April 2017. UT, Knoxville TN.

2017- Standifer C, Pence M, Smith S, Zitnyar S, CarBishop C, Donohoe DR, Whelan J, and ***Bettaieb A***. Pyruvate Kinase M2 Deficiency Promotes a Brown Fat-Like Phenotype in White Adipocytes. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), April 2017. UT, Knoxville TN.

2017- Pence M, Standifer C, Smith S, Zitnyar S, CarBishop C, Donohoe DR, Whelan J, and ***Bettaieb A***. Disruption of Pyruvate Kinase M2 expression in the pancreas affects β-cell function. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), April 2017. UT, Knoxville TN.

2017- Alquraishi M and ***Bettaieb A***. Soluble epoxide hydrolase in podocytes is a significant contributor to renal function under hyperglycemia. Poster Presentation at the 13th Annual CEHHS Graduate Student Research Colloquium (March), Knoxville, TN.

2017- Alquraishi M and ***Bettaieb A***. Podocyte-specific soluble epoxide hydrolase deficiency attenuates acute kidney injury. Poster Presentation at the 13th Annual CEHHS Graduate Student Research Colloquium (March), Knoxville, TN.

2017- MacDonald, Zhao Yi, Han A, D. R. Donohoe, ***Bettaieb A***, J.Whelan. A combination of herbal extracts targets prostate cancer by upregulating AMPK thru the tumor suppressor protein LKB1. Poster Presentation at the 13th Annual CEHHS Graduate Student Research Colloquium (March), Knoxville, TN.

2017- MacDonald, Zhao Yi, Han A, D. R. Donohoe, ***Bettaieb A***, J. Whelan. A combination of herbal extracts increases LKB1-dependent activation of AMPK in a model of advanced prostate cancer. Poster Presentation at the 25th annual American Institute for Cancer Research 2016 (November), Bethesda, MD.

2017- Han A, MacDonald A, ***Bettaieb A***, Whelan J, Donohoe D. Butyrate regulates its own metabolic fate as an hdac inhibitor in colorectal cancer cells. The FASEB Journal. 2017;31:300.302.

2017- MacDonald A, Donohoe D, ***Bettaieb A***, Han A, Zhao Y, Whelan J. A Combination of herbal extracts targets prostate cancer by upregulating ampk thru the tumor suppressor protein lkb1. The FASEB Journal. 2017;31: 646.636.

2018- Summer Smith, Megan Pence, Cynthia Standifer, Samuel Zitnyar, Caroline Bishop, Jay Whelan, Dallas Donohoe, and Ahmed Bettaieb. Disruption of pyruvate kinase M2 expression in the pancreas affects β-cell function. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), UT, Knoxville TN.

2018- Summer Smith and Ahmed Bettaieb. Pyruvate kinase M2 deficiency promotes a brown fat-Like phenotype in white adipocytes. Posters at the Capitol, Nashville, TN. Poster. Corresponding author.

2018- Summer Smith, Megan Pence, Cynthia Standifer, Samuel Zitnyar, Caroline Bishop, Jay Whelan, Dallas Donohoe, and Ahmed Bettaieb. Disruption of pyruvate kinase M2 expression in the pancreas affects β-cell function. National Conference on Undergraduate Research. University of *Central Oklahoma*. Edmond, OK. Poster. Corresponding author.

2018-Amal Humidat, Samah Chahed, Bruce D. Hammock, and Ahmed Bettaieb. Soluble epoxide hydrolase deficiency in podocytes improves renal function under hyperglycemia. 4th Annual Women in STEM Research Symposium. UT, Knoxville TN. Poster. Corresponding author.

2018- Mohammed Alquraishi, Dina Alani, Samah Chahed, Tory Frankel, Jay Whelan, Ahmed Bettaieb. Adipose-specific soluble epoxide hydrolase deficiency attenuates high fat diet-induced obesity in mice. 2018. 2018 Graduate Student Research Colloquium. UT, Knoxville, TN. Oral. Corresponding author.

2018- Dexter L. Puckett, Samah Chahed, Dina Alani, Victoria D. Frankel, Jay Whelan, and Ahmed Bettaieb. Zyflamend induces apoptosis in pancreatic cancer cells via modulation of endoplasmic reticulum stress and autophagy. Experimental Biology April 2018. San Diego, CA, USA. Poster. Corresponding author.

2018- Dexter L. Puckett, Samah Chahed, Dina Alani, Victoria D. Frankel, Jay Whelan, and Ahmed Bettaieb. Zyflamend induces apoptosis in pancreatic cancer cells via modulation of endoplasmic reticulum stress and autophagy. Experimental Biology April 2018. San Diego, CA, USA. Oral. Corresponding author.

2018- Victoria D. Frankel, Samah Chahed, Dina Alani, Dexter L. Puckett, Brynn Voy, Dallas Donohoe, Jay Whelan, and Ahmed Bettaieb. Effects of Zyflamend treatment on adipogenesis. Experimental Biology April 2018. San Diego, CA, USA. Poster. Corresponding author.

2018- Haley Overby, Jamie Kearns, Kelsey Hildreth, Samah Chahed, Sean Kodani, Christophe Morisseau2, Bruce D. Hammock, Shu Wang, Ahmed Bettaieb, and Ling Zhao. Pharmacological inhibition of soluble epoxide hydrolase promotes brown adipogenesis. Experimental Biology. April 2018. San Diego, CA, USA. Poster. Corresponding author.

2018- Jay Whelan, Amber F. MacDonald, Ahmed Bettaieb, Dallas R. Donohoe, Anna Han and Yi Zhao. Cancer regulatory proteins LKB1 and CaMKK2 are antithetically regulated via the activation of PKCzeta and DAPK, respectively, by a well-defined polyherbal blend (PHB). American Society for Nutrition. 2018. Boston, MA, USA. Poster. Co-author.

2018- Mohammed Alquraishi, Dina Alani, Samah Chahed, Tory Frankel, Jay Whelan, and Ahmed Bettaieb. Zyflamend attenuates high fat diet-induced obesity in mice. American Society for Nutrition. June 2018. Boston, MA, USA. Poster. Corresponding author.

2018- Morgan D. Strong, Matthew D. Hart, Tony Z. Tang, Edralin A. Lucas, Stephen L. Clarke, Ahmed Bettaieb, Dingbo Lin, Winyoo Chowanadisai. Loss of ZIP12 in neuro-2a cells increases mitochondrial superoxide and reduces neurite outgrowth, which is partially restored by pgc-1alpha. 2018. American Society for Nutrition. June 2018. Boston, MA, USA. Poster. Co-author.

2018- Trindade-da-Silva CA, Bettaieb A, Napimoga MH, Lee KSS, Inceoglu B, Ueira-Vieira C, Bruun D, Goswami SK, Haj FG, Hammock BD. Soluble epoxide hydrolase inhibitor promotes immunomodulation to inhibit bone resorption. International Association for Dental research. July 2018. London, England. Poster. Co-author.

2018- Mohammed Alquraishi, Dina Alani, Samah Chahed, Tory Frankel, Jay Whelan, and Ahmed Bettaieb. Zyflamend attenuates high fat diet-induced obesity in mice. Obesity Middle East 2018. Dubai, UAE. Oral. Corresponding author.

2018- Ahmed Bettaieb, Tory Frankel, Dina Alani, Samah Chahed, Dallas Donohoe, and Jay Whelan. Zyflamend alters adipocytes differentiation and attenuates high fat diet-induced obesity in mice. The Obesity Society 2018. Nashville, TN, USA. Poster. Corresponding author.

2018- Caleb M Gibson, Sheev Zaver, Ahmed Bettaieb, Shawn Campagna, and Brynn Voy. Lipolysis rapidly induces the formation of N-acyl Amino acids in vivo. The Obesity Society 2018. Nashville, TN, USA. Poster. Co-author.

2019- Madilynn A. Caylor, Chris Crumbley, Ji Yeon Kim, Presley Dowker, Xinyun Xu, Jesse Rodriguez, Jay Whelan, Dallas R. Donohoe, and Ahmed Bettaieb. Pyruvate kinase M2 deficiency promotes a brown fat-Like phenotype in white adipocytes. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), UT, Knoxville TN. Poster. Corresponding author.

2019- Presley Dowker, Xinyun Xu, Jesse Rodriguez, Madilynn A. Caylor, Chris Crumbley, Ji Yeon Kim, Jay Whelan, Dallas R. Donohoe, and Ahmed Bettaieb. Disruption of Pyruvate Kinase M2 expression in the pancreas affects β-cell function. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), UT, Knoxville TN. Poster. Corresponding author.

2019- Ahmed Bettaieb, Dexter Puckett, Samah Chahed and J. Whelan, Zyflamend Induces Apoptosis in pancreatic cancer cells via modulation of the JNK pathway. The FASEB Journal, 2019, 33, lb282-lb282. Experimental Biology 2019. Nashville, TN. Experimental Biology. April 2019. Nashville, TN, USA. Poster. Corresponding author.

2019- Mohammed Alquraishi, Victoria Frankel, Dallas Donohoe, Brynn Voy, and Ahmed Bettaieb. Decreased adiposity and enhanced glucose tolerance in Zyflamend treated mice. Experimental Biology. Experimental Biology 2019. Nashville, TN. Experimental Biology. April 2019. Nashville, TN, USA. Poster. Corresponding author.

2019- Babajide Ojo, Matt Hart, Morgan D Strong, Hong Hwang, Peter Hoyt, Ahmed Bettaieb, Stephen Clarke, Brenda Smith, Dingbo Lin, Edralin A Lucas, and Winyoo Chowanadisai. Knockdown of zinc transporter ZIP12 by shRNA alters genes related to mitochondria and neuronal differentiation in neuro-2a cells. Current Developments in Nutrition, 2019, 3. American Society for Nutrition. June 2019. Baltimore, MD, USA. Poster. Co-author.

2019- Dallas Donohoe, Bohye Park, Ji. Yeon. Kim, Emily Simon, Haley Porter, Jay Whelan, and Ahmed Bettaieb, Implications for ulcerative colitis and colorectal cancer: role of pyruvate kinase M2 in regulating the oxidation of fiber-derived butyrate in the diseased colonocyte. Current Developments in Nutrition, 2019, 3. American Society for Nutrition. June 2019. Baltimore, MD, USA. Poster. Co-author.

2019- Kelsey Hildreth, Haley Overby, Sean Kodani, Christophe Morisseau, Bruce Hammock, Ahmed Bettaieb, and Ling Zhao. Soluble epoxide hydrolase inhibitor t-AUCB promotes murine brown adipogenesis: role of ppar gamma and ppar alpha. Current Developments in Nutrition, 2019, 3. American Society for Nutrition. June 2019. Baltimore, MD, USA. Poster. Co-author.

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| **Awards & Fellowships** |

2020: Mary Helen Byers Award, The University of Tennessee-Knoxville.

2019: Frances Speight Clark Faculty Support Award, The University of Tennessee-Knoxville

2017: The Board of Advisors Faculty Support Award, The University of Tennessee-Knoxville

2012: The Carpenter Travel Award: Department of Nutrition, University of California, Davis

2007: Excellence Award: Ministère de l'Éducation du Québec (MEQ). Two years duration.

2007: Best poster presentation Award: 5th Oxidative Stress Consortium; University of Quebec at Montreal.

2007: Best poster presentation Award: The Spring Conference; University of Montreal.

2007: Excellence Award: Faculty of sciences of the University of Quebec at Montreal (Funds of the department of biological sciences).

2006: Excellence Award: Ministère de l'Éducation du Québec.

2005: Excellence Award: The foundation of University of Quebec at Montreal.

2005: Excellence Award: Faculty of Sciences of the University of Quebec

2005: Best poster presentation. TOXEN (Research center for environmental toxicology) annual meeting; University of Quebec at Montreal.

2004: Excellence Award: The foundation of University of Quebec at Montreal.

2004: Best presentation Award: 28th annual congress of the biologist association of Quebec.

2004: Best poster Award: TOXEN (Research center for environmental toxicology) annual meeting; University of Quebec at Montreal.

2002: The International Research Scholarship award: the ministry for the higher education of Tunisia: Five-year duration.

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| **Services** |

2019- ORNL Member of the Institutional Biosafety Committee (IBC)

2019- UTK Member of the Institutional Animal Care and Use Committee (IACUC)

2019- UTK/College of Education Health and Human sciences. Member of the undergraduate curriculum review committee

2017- UTK; Student Conduct Board

2017- UTK; Department of Nutrition Graduate Handbook Review Committee

2017- UTK; Department of Biochemistry, Cellular and Molecular Biology: Hunsicker Research Incentive Award review committee

2017: UTK; Department of Biochemistry, Cellular and Molecular Biology: Donald L. Akers, Jr. Faculty Award review committee

2016-2019: Member of the College Senate Committee

2016-2017: Obesity Summit international conference organizing Committee

2016-2017: UTK: Science Supplies Bid Committee

2016: The American University of Beirut Junior faculty Award review committee

2016: Member of the College Senate Committee

2016- Member of American Society for Pharmacology and Experimental Therapeutics

2010- Member of Oxigen Club of Clifornia

2007- Member of the Society for Redox Biology and Medicine

**Editorial board:**

* 2013- Vitamins and Minerals Reports
* 2016- Journal of Nutrition & Food Sciences
* 2017- Journal of Nutrition and Dietetics.
* 2017- Obesity Research
* 2018- Journal of Obesity and Medical Complications
* 2018- International Journal of Food Science, Nutrition and Dietetics
* 2019- Nutritional Science Journal

**Conference organization**

* Global Summit on Obesity & Diet Management, Los Angeles, CA, September 2016.
* Global Summit on Obesity and Diet Management, Chicago, October 2017

**Scientific Committee Member**

* Global Summit on Obesity & Diet Management, Los Angeles, CA, September 2016. Role: Conference Organizer and Plenary Speaker.
* Global Summit on Obesity and Diet Management, Chicago, IL, October 2017. Role: Conference Organizer and Plenary Speaker.
* International Nutrition Research Conference (Nutrition 2020), Rome; Italy. July 2019. Role: Scientific Committee.
* The American University of Beirut. Junior Faculty Award
* UTK; Department of Biochemistry, Cellular and Molecular Biology: Hunsicker Research Incentive Award review committee
* UTK; Department of Biochemistry, Cellular and Molecular Biology: Donald L. Akers, Jr. Faculty Award review committee
* UTK. Limited submission competition for the NIH Collaborative Program Grant for Multidisciplinary Teams (RM1) review committee
* DOD- Peer Reviewed Medical Research Program (PRMRP) for the Department of Defense Congressionally Directed Medical Research Programs (CDMRP).
* International Nutrition Research Conference (Nutrition 2020), Rome; Italy. July 2019. Role: Scientific Committee.
* The DBT/Wellcome Trust India Alliance (India Alliance)/Government of India funding agency. July 2020.

**Reviewer for**

1. Adipocyte
2. BBA-General Topics
3. BBA-Molecular Basis of Disease
4. Biomedicine & Pharmacotherapy
5. Cell Cycle
6. Diabetes
7. FASEB
8. Federation of European Biochemical Societies (FEBS) Letters
9. Food & Function Journal
10. Free Radical Biology & Medicine
11. Frontiers in Pharmacology
12. In Vitro Cellular & Developmental Biology
13. International Journal of Molecular Sciences
14. Journal of Applied Biomedicine
15. Journal of Biological Chemistry
16. Journal of Diabetes and Its Complications
17. Journal of Gerontology: Biological Sciences
18. Journal of Pharmaceutical Analysis
19. Metabolism & Cardiovascular Diseases
20. Diabetes, Metabolic Syndrome and Obesity
21. Metallomics
22. Molecular and Cellular Endocrinology
23. Molecular nutrition
24. Nutrients
25. Nutrition
26. Nutrition Research
27. Obesity and Metabolism
28. PLosOne
29. Surgery for Obesity and Related Diseases
30. The Journal of Nutritional Biochemistry
31. Toxicology and Applied Pharmacology
32. World Journal of Surgical Oncology

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| **Research Support** |

Ongoing Research Support

**UTK/UTIA Center of Excellence/NIFA.** Fibro-adipogenic precursors: a new target for the prevention of breast myopathies in broiler chickens. **Role: Co-P.I.** Ahmed Bettaieb Department of NutritionDepartment of Nutrition, The University of Tennessee, Knoxville. **P.I.** Brynn Voy. Department of Animal Science, The University of Tennessee, Institute of Agriculture. 06/2020-05/2021. Total Award: $ 30,000.00.

**NIH/NIDDK***:* ***1R15DK114790****. n-3 derived epoxides and sEH inhibitor in brown adipogenesis*. **Role: Co-PI. P.I.** Dr. Ling Zhao, Department of Nutrition, The University of Tennessee, Knoxville. 06/2018-05/2021. Total Award: $ 442,654.00.

**USDA National Institute of Food and Agriculture/AFRI: 2019-67017-29261.** *Impact of Interleukin-1 signaling on butyrate oxidation mediates the response of a high-fiber diet in the colonic injury and repair process.* **Role:** Co-Investigator. **P.I.** Dr. Dallas Donohoe, Department of Nutritional Sciences, The University of Tennessee, Knoxville. 07/2019-06/2022. Total Award: $ 500,000.00.

Completed Research Support

**NIH/NIDDK***:* **K99 DK100736.** *Metabolic functions of adipose pyruvate kinase M2.* **Role:** Sole Principal Investigator. 09/2013-05/2015. Total Award: $ 180,000 ($162,000 direct cost).

**NIH/NIDDK***:* ***R00DK100736****. Metabolic functions of adipose pyruvate kinase M2.* **Role:** Sole Principal Investigator. 09/2013-05/2020. Total Award: $ 927,000 ($682,087 direct cost)

**USDA National Institute of Food and Agriculture- Oklahoma Agricultural Experiment Station Hatch/1012752.** *Role of ZIP12 in preventing mitochondrial dysfunction and neurodegenerative disorders.* **Role:** Co-Investigator. **P.I.** Dr. Winyoo Chowanadisai, Department of Nutritional Sciences, Oklahoma State University-Stillwater. 08/2017-07/2019. Total Award: $ 90,000.00.