CURRICULUM VITAE

Laila Abdullah Ph.D.

Name	Laila Abdullah Ph.D.
Sex	Female
Qualifications	Ph.D. Life and Biomolecular Sciences (emphasis on Neuroscience)
Residency Status	US citizen
Business address	Roskamp Institute 2040 Whitfield Ave Sarasota, FL, 34243

Education

1989-1992	Hamilton High School, Los Angeles CA. Dr. Phillips High School, Orlando, FL.
1992-1994	Valencia Community College, Orlando FL.
1994-1997	B.S. in Biology, University of South Florida, Tampa FL.
2005-2006	Post-graduate Diploma in Epidemiology, University of London, London School of Hygiene and Tropical Medicine, Distance Learning Program. London, UK
2006-2008	M.Sc. in Epidemiology: Principals and Practice, University of London, London School of Hygiene and Tropical Medicine, Distance Learning Program. London, UK
2009-2012	Ph.D. candidate, Open University, Milton Keynes, UK and the Roskamp Institute (Open University Affiliate Research Center), Sarasota, FL, USA
2012	Ph.D. Life and Biomolecular Sciences (emphasis on Neuroscience - Thesis: Identification of biomolecular pathways associated with the central nervous system based symptoms of Gulf War Illness) The Open University, Milton Keynes, UK.

Professional positions

1997-2002	Research assistant/Research Coordinator, Roskamp Institute, University of South Florida (USF), Tampa, Florida (FL).
1998-2009	Grant Coordinator, Roskamp Institute, Tampa, FL.
1998-2003	Clinic Coordinator, USF Memory Disorder Clinic (MDC), Tampa, FL.
2003-2003	Coordinator, Cognishunt study, USF MDC, Tampa, FL.
2001-2004	Field Site Coordinator, Alzheimer's Disease Anti-inflammatory Prevention Trial (ADAPT), Roskamp Institute, Tampa, FL.
2003-2004	Study Coordinator, Multi-center Vitamin E Trial in Aging Persons With Down Syndrome, Roskamp Institute, Tampa, FL.
2003-2005	Clinic Manager, Roskamp Institute MDC, Tampa, FL.
2005-2009	Sr. Research Associate, Roskamp Institute, Sarasota, FL.
2009-2012	Doctoral Candidate, Open University (UK), Roskamp Institute, Sarasota, FL.
2010-2011	Student body representative, Open University (UK), Roskamp Institute, Sarasota, FL.
2011-2017	WOC appointment, James A. Haley VA Hospital, Tampa, FL
2012-2016	Scientist I, Roskamp Institute, Sarasota, FL
2016-2018	Scientist II, Roskamp Institute, Sarasota, FL
2015-press	PhD advisor faculty, Roskamp Institute, Sarasota, FL
2018-pres	Scientist III, Roskamp Institute, Sarasota, FL.
2017-pres	5/8th VA Employee, Research Biologist, James A. Haley VA Hospital, Tampa, FL.
2023-pres	Member of Florida Harmful Algal Bloom Health Working Group, Florida, USA

2024-pres 7/8th VA Employee, Research Biologist, James A. Haley VA Hospital, Tampa, FL.

2024-pres Military Exposure Research Program (MERP) data and bio repository Core member, James, A. Haley VA Hospital, Tampa, FL.

2024-pres Members of the Research Advisory Committee on Gulf War Illness

Awards:

Travel Stipend from the American Society for Mass Spectrometry (ASMS) to attend 2012 ASMS meeting

Travel fellowship from the Alzheimer's Association to attend Alzheimer's Association International Conference 2013.

Early investigators award to attend Kern lipid conference 2015

Invited speaker, Lipidomics and Decoding Life: From the Technology and Biology Landscapes to Clinical Adaptation, Newry Maine, 2022

Invited speaker, Society for Toxicology, Harmful Algal Blooms and Human Health, Salt Lake City, Utah, 2023

Scientific Reviewer:

- Reviewer for Pharmacogenomics, European Journal of Pharmacology, Disease Markers, Neurobiology of Aging, Journal of Alzheimer's Disease, the Omics Publishing group, EBioMedicine, Molecular Medicine, the Journal of Alzheimer's disease, Current Alzheimer's research and Clinical Chemistry and Laboratory Medicine, Neurobiology of diseases, Neurotoxicology and Toxicology.
- Grant Reviewer: CDMRP GWI Research Program. CDMRP Peer Reviewed Alzheimer's Research Program, National Institutes of Heath and the *Veterans Administration*.

Role in Peer Reviewed Funding:

2003-2004 Role: Study Coordinator
Title: Multicenter Vitamin E Trial in Aging Persons with Down Syndrome
Contract/Grant: National Institutes of Health (NIA: R01AG16381).
Description: This grant was designed to determine the efficacy of therapeutic intervention with Vitamin E in treating cognitive impairment in subjects with down syndrome.

2002-2004 Role: Study Coordinator
Title: Alzheimer's disease Anti-Inflammatory Prevention Trial
Contract/Grant: National Institutes of Health (NIA: U01-GA154777).

Description: The goal of this study was to perform a randomized double-blind placebo controlled prevention trial to determine if NSAID intervention can prevent diagnosis of Alzheimer's disease.

2003-2005 Role: Study Coordinator
Title: Voyager Pharmaceutical Double Blind Placebo-Controlled Study of Leuprolide Acetate Depot in the Treatment of Alzheimer's disease in Men (IND 66415).

2007-2008 Role: Co-investigator
Title: Peripheral beta-amyloid: Relationship to cognition
Contract/Grant: State award - Byrd Alzheimer's Institute (PI: Luis)
Description: This study was aimed at using blood amyloid levels to determine if these peptides can be used as potential biomarkers of Alzheimer's disease.

2007-2008 Role: Co-investigator
Title: Longitudinal CD40/CD40L and Abeta levels in AD patients.
Contract/Grant: State award - Byrd Alzheimer's Institute (PI: Ait-Ghezala)
Description: This study was aimed at determining if CD40/CD40L levels can be used as biomarker's of AD.

2008-2009 Role: Co-investigator
Title: A novel approach to screening for MCI and early AD.
Contract/Grant: State Award - Byrd Alzheimer's Institute (PI: Luis)
Description: This study was aimed at examining whether combined use of neuropsychological testing and blood amyloid improve our ability to detect preclinical MCI/AD.

2009-2010 Role: Co-investigator
Title: Identification of Biological Pathways Implicated in Hippocampal Dysfunction and Cognitive Impairment in Gulf War Illness.
Contract/Grant: CDMRP award - GW080094 (PI: Crawford)
Description: The goal of this project is to empirically determine, in animal models of GWI, whether the cognitive dysfunction of hippocampal origin observed in Gulf War veterans has a neurodegenerative component and to determine whether biological pathways that are involved in the hippocampal abnormalities are also perturbed.

2009-2011 Role: Co-investigator
Title: A novel screening approach to very early Alzheimer's disease.
Contract/Grant: Alzheimer's Association NIRG-09-131751 (PI: Luis)

Description: The specific aims of this study are to examine whether sCD40, sCD40L, Aβ, and APOE are suitable for screening MCI/AD.

2011-2014 Role: Co-investigator
Title: Proteomic immune profiling for the therapeutic modulation of cognitive impairment in a novel GWI mouse model.
Contract/Grant: CDMRP award# GW100076 (PI: Ait-Ghezala)
Description: The main goal is to understand the central nervous system (CNS)/peripheral immune and inflammatory responses associated with cognitive impairment and neuropathological abnormalities in a GWI animal model in order to identify new therapies.

2010-2013 Role: Co-investigator
Title: Proteomic identification of plasma TBI biomarkers
Contract/Grant: VA Merit Award (PI: Crawford)
Description: The main goal of this project is to characterize brain and blood proteomic profiles associated with TBI to identify novel biomarkers for TBI diagnosis and prognosis.

2013-2017 Role: Co-investigator
Title: Identification of plasma biomarkers of Gulf War Illness using "Omic" technology
Contract/Grant: A Merit Award (PI: Crawford)
Description: The goal of this project is to identify plasma biomarkers of Gulf War Illness using proteomic, metabolomic and lipidomic analyses.

2014-2017 Role: (Principal investigator)
Title: Restoring the Brain's Lipid Homeostasis as a Therapeutic Avenue for Treating the CNS symptoms of Gulf War Illness.
Contract/Grant: CDMRP award# GW1300045
Description: The main goal of this project is to determine if therapeutic targeting of lipid pathways can improve cognition and reduce astroglia pathology associated with Gulf War Illness (GWI).

2016-2019 Role: (Principal Investigator)
Title: "Identification of Lipid Biomarkers of Inflammation and Metabolic Disturbances in GWI"
Contract/Grant: CDMRP award# GW150056
The goal of the current study is to determine if blood lipid changes associated with inflammation and mitochondrial function can serve as biomarkers for diagnosing veterans with GWI. We will also determine if these biomarkers can identify subgroups of veterans based on exposure history and symptom presentation.

2017-2020 Role: (Principal Investigator)
Title: “Treating GWI immune and metabolic disturbances by targeting lipid metabolism”
Contract/Grant: VA Merit# RX002260-01A1
The main objective of this study is to identify key biological targets associated with peroxisomal and mitochondrial lipid dysfunction in order to identify therapies for GWI.

2017-2020 Role: (Principal Investigator)
Title: “Lipidomics for Identifying APOE4-Associated Biomarkers of AD-Related Cognitive Decline in TBI Patients”
Contract/Grant: CDMRP award# AZ160065
The main objective of this study is to identify omega-3 and omega-6 fatty acid containing phospholipids and neutral lipids to that may predict Alzheimer’s disease related cognitive decline in TBI patients.

2018-2021 Role: (Principal Investigator)
Title: “Development of oleoylethanolamide for treating the CNS symptoms of Gulf War Illness”
Contract/Grant: CDMRP award# GW170084
The main objective is to further develop oleoylethanolamide as a potential treatment for GWI. This work will focus on advance pharmacokinetics/ pharmacodynamics and toxicity studies to identify the optimal dose for treating veterans with GWI.

2019-2024 Role: (Principal Investigator)
Title: “Influence of APOE genotypes on blood brain barrier transport of DHA by mfsd2a in Alzheimer's Disease”
Contract/Grant: VA Merit award# 1 I01 BX004352-01A1
The main objective of this study is to identify the effect of APOE genotypes on transit of DHA through its receptor mfsd2a across the BBB and identify approaches for therapeutic targeting in AD.

2019-2024 Role: (Principal Investigator)
Title: Identifying APOE related lipid biomarkers for diagnosing chronic neurocognitive deficits in TBI patients
Contract/Grant: VA Merit RX002767-01A2
This proposal will look at the breakdown products of lipids that are bioactive in order to determine if they can be useful biomarkers of TBI in a cohort of subjects recruited as part of the chronic effects of neurotrauma consortium.

2019-2024 Role: (Principal Investigator)
Title: A randomized, double-blind, placebo-controlled clinical trial of oleoylethanolamide for targeting lipid metabolism in Gulf War Illness.
Grant/Contract: CDMRP GW1800045
The goal of this study is to determine if OEA restores lipid profiles and reduces inflammation in veterans with GWI.

2020-2022 Role: (Principal Investigator)
Title: Long term assessment of neurological effects after red tide exposure
Grant/Contract: NIH/ 1R21ES032114
The main objective is to identify abnormal immune responses and long-term CNS effects after exposure to red tide neurotoxins.

2020-2025 Role: (Principal Investigator)
Title: A randomized double-blind placebo-controlled clinical trial of nicotinamide riboside for restoring mitochondrial bioenergetics in Gulf War Illness
Grant/Contract: CDMRP GW190036
The proposed work is carefully designed to determine the translational potential of NR in correcting the underlying mitochondria disturbances observed in veterans with GWI.

2020-2025 Role: (Principal Investigator)
Title: Gulf War pesticide metabolite mediated autoimmune dysfunction in Gulf War Illness
Grant/Contract: CDMRP GW190009
The proposed work is aimed at validating the role GW pesticide related autoantibodies in the persistent autoimmune pathology of GWI. In addition, we will investigate the role of memory B-cells and plasma cells (PC) in order to determine whether therapeutic targeting of these cells could alleviate GWI related pathologies in well-characterized mouse models of GWI.

2021-2023 Role: (Principal Investigator)
Title: The effects of APOE4 on carnitine/acylcarnitine mediated bioenergetic deficits in Alzheimer's disease.
Grant/Contract: NIH 1R03AG070540
We will examine the influence of different APOE genotypes on the transport of peripherally administered carnitine and acylcarnitines to the brain. We will also determine the influence of different APOE genotypes on the metabolism of peripherally administered carnitine and acylcarnitines and determine whether fatty acid oxidation of acylcarnitine is impaired in the periphery and/or in the brain.

2021-2025 Role: (Principal Investigator)
Title: Validating blood biomarkers of brain immune and metabolic dysfunction in Gulf War Illness
Grant/Contract: GW200027
Exposure to GW pesticides may have resulted in disturbances of lipid homeostasis, causing an accumulation of lipids which become inaccessible as energy substrates, thereby limiting their use in bioenergetics. This may also contribute to oxidative stress and inflammation which is often observed in veterans with GWI. Given that carriers of the ε4 allele have deficits in lipid transport and metabolism and that the ε4 allele is associated with cognitive decline beyond normal aging, the presence of the ε4 allele will further alter blood lipid profiles and affect cognitive function in veterans with GWI. We therefore hypothesize that blood lipids/ metabolites and the APOE ε4 allele will: a) correlate with more severe cognitive impairment in GWI; b) correlate with bioenergetics deficits and glia activation in the brains of GWI veterans; and c) provide a specific biomarker signature of GWI.

2023-2025 Role: (Principal Investigator)
Title: Cerebrovascular contributions to APOE4-mediated brain bioenergetic deficits in Alzheimer's disease
Grant/Contract: R21AG080375-01A1
We will examine the how aged brain vessels (cerebrovascular) and their apoE expression impacts bioenergetics and whether targeting the AMPK-ACC pathway within all different cells of the brain blood vessels can regulate mitochondrial fatty acid metabolism in brain blood vessels which may improve cerebrovascular function. Tasks: (1) Perform studies on isolated cerebral vessel studies to determine the effects of targeting AMPK-ACC system; (2) Develop mouse model to knockdown ACC in vivo.

2023-2025 Role: (Principal Investigator)
Title: Role The role of adaptive immunity in organophosphate induced CNS injury.
Grant/Contract: 1 R21 NS131162-01
The goal of this project is to examine the role of one-time exposure to organophosphate (OP) pesticides in causing the autoimmune abnormalities. We will determine if acute chlorpyrifos (CPF) exposure activates peripheral immune responses and corresponds with neuroinflammation. The study will identify CPF/CPO-protein adducts in the brain and blood after acute CPF exposure. The study will determine if immune cells recognize CPF/CPO protein adducts and determine if such

antibodies cross-react with brain proteins. Tasks: (1) Develop mouse model of CPF exposure that is relevant to the high dose toxic exposure and; (2) Examine the autoimmune phenotype in this mouse model.

2023-2026 Role (Site Principal Investigator)
Title: Cognitive training to reduce incidence of cognitive impairment in older adults
Grants/Contract: 5R01AG070349-03
The proposed research will determine if cognitive training reduces incidence of mild cognitive impairment and AD. Older adults are randomized to speed processing training (SPT) or an active control arm of cognitive stimulation (i.e., computer games) to determine whether SPT can delay the onset of MCI/AD. Tasks: (1) Identify whether SPT can delay the onset of AD and (2) identify biomarkers of SPT treatment response.

2024-2028 Role (Principal Investigator)
Title: The contribution of APOE4 mediated bioenergetic deficits in the cerebrovascular dysfunction in Alzheimer's disease
Gran/Contract: 1 I01 BX006079-01A2
This study will develop new mouse models of APOE and AD that are designed to partially genetically knockdown acetyl-CoA carboxylase 1 (ACC1) specifically in the brain endothelial cells using mfsd2a promotor. We will then use this newly developed mouse model to investigate whether targeting brain endothelial fatty acid metabolism can help with neuronal bioenergetics and examine the effects of glymphatic function, particularly in relation to waste and amyloid clearance from the brain. Tasks: (1) Identify cell specific effects of ACC inhibition in mouse models of AD that take APOE genotype into consideration; (2) Using novel mouse models of ACC and AD mouse models, identify alterations in glymphatic function in relation to fatty acid metabolism and (3) develop therapies that target the ACC system in AD mouse models.

2024-2029 Role (Principal Investigator)
Title: Neurological effects of aerosolized red tide neurotoxins
Grants/Contract: 1R01ES036145-01A1
This study will explore the relationship between aerosolized PbTx exposure and health outcomes. Specifically, it seeks to examine the dose-response relationship between PbTx and neurological symptoms. The study will also investigate whether individuals with pre-existing vulnerabilities, such as a past medical history of neurological conditions or carrying the APOE ε4 allele, experience heightened symptom severity compared to healthy individuals. Furthermore, this study will perform

pharmacokinetics (PK) of brevetoxins in humans to develop physiologically based PK models to understand brevetoxin disposition in the brain. These findings could lead to the identification of biomarkers for neurological symptoms experienced by residents of southwest Florida after brevetoxin exposure improve better understanding of brevetoxin toxicity. Tasks: (1) Perform clinical studies to examine the levels of brevetoxin and brevetoxin antibodies in blood of southwest Florida residents; (2) identify whether individuals with pre-existing genetic risk factors and medical conditions experience higher burden of neurological symptoms upon exposure to brevetoxin; and (3) establish PK profiles of brevetoxin in relation to neurological symptoms.

2024-2027 Role (Principal Investigator)
Title: Targeting APOE bioenergetics for reducing the risk of neurodegeneration after chronic traumatic brain injury
Grant/contract: TP230134
The goal of this project is to determine whether targeting the L-carnitine mediated bioenergetics pathway are affected after mild TBI and whether the APOE genotypes will have a differential impact on this relationship. We will also therapeutically target this pathway to determine whether modulating this system could be of therapeutic value in mTBI. Tasks: (1) Determine whether L-carnitine bioenergetics mediated pathways are altered in the brains of deceased Veterans with TBI. (2) Generate mouse models of mTBI to evaluate L-carnitine mediated bioenergetics disturbances and (3) Developing therapeutic avenues for targeting the L-carnitine mediated bioenergetics deficits in mTBI.

2025-2026 Role (Co-investigator; PI: Nkiliza)
Title: Targeting the astrocyte-cerebrovasculature system to correct brain bioenergetics defects associated with APOE4
Grant/contract: 1R03AG087463-01A1
The main goal of this project is to determine whether activation of the GLP-1RAMPK-ACC pathway in astroglia could regulate FAO in E4 carriers, which could open the door to new ways of treating AD. Thus, these proposed studies will provide critical insight into the development of approaches for targeting brain bioenergetic pathways to prevent or reduce cognitive decline in AD among high-risk APOE E4 carriers. Tasks: (1) Examine astroglia mediated GLP1-AMPK-ACC pathway in vitro and (2) identify the contribution astroglia on this pathway in relation to APOE genotypes in EFAD mice in vivo.

2024-2027 Role (Co-investigator)

Title: Translational Impact of Genetic Susceptibility to Complex Toxic Exposome in Blood-Brain Barrier Function and Age-Related Neurological Outcomes in GWI
Grant/Contract: TX230166
We propose to use a novel BBB imaging technique together with complex diffusion imaging to study the intricate connections among genetic, immunological, metabolic, and neurological measures from GWI (i.e. the exposome). Since the multimodal imaging framework can be applied to both animals and humans, it can be used in common biological markers connecting preclinical findings to human data. We will also test two FDA approved treatments minocycline and pentofylline in the transgenic mouse models.

Presentations:

Weisman, M., Vanderploeg R., Ordorica P., Michaels L., **Abdullah L**., Kundtz A. Crawford F., & Mullan M (1999). "The Influence of ApoE Genotype on Cognitive Recovery after Traumatic Brain Injury (TBI)." Annual meeting of the American Psychiatric Association (Washington D.C).

Vanderploeg R., Weisman, M., Ordorica P., Michaels L., **Abdullah L**, Kundtz A. Crawford F., & Mullan M (1999). "Apolipoprotein E Genotype as an Independent variable: The Influence on Cognitive and Physical Functioning Following Traumatic Brain Injury." The 1999 International Meeting of the 3rd World Congress on Brain Injury (Quebec Canada).

Town T, **Abdullah L**, Crawford F, Schinka J, Ordorica P, Francis E, Hughes P, Duara R, & Mullan M (1999) "Association of a functional μ-opioid receptor allele (+118A) with alcohol dependency." Society for Neuroscience, Los Angeles CA.

Tan J, Town T, Placzek A, **Abdullah L** Wu Y, Richards D, Crawford F, and Mullan M (2000). "CD45 isoform alteration in CD4+ T cells as a potential diagnostic marker of Alzheimer's disease." Society for Neuroscience Meeting, Los Angeles CA.

Freeman M, **Abdullah L**, Schinka J, Gold M, Duara R, Mullan M & Crawford F (2000). "Association between the NOS3 gene and hypertension but not Alzheimer's Disease." Third Annual Aging Research Day (USF).

Small, BJ., **Abdullah, L**., Freeman, M., Crawford, F., Duara, R., & Mullan, M. (2000). "Age and gender as risk modifiers of APOE-ε4 in Alzheimer's disease." World Alzheimer Congress, Washington, DC.

Crawford F, Freeman M, Schinka J, **Abdullah L**, Morris M, Krivian K, Richards D Duara R, & Mullan M (2000). "Genetic association between a functional polymorphism

in the Cystatin C gene (CST3) and late onset Alzheimer's Disease." World Alzheimer Congress, Washington, DC.

Morris M, Freeman M, Schinka J, **Abdullah L**, Richards D, Sevush S, Duara R, Mullan M & Crawford F (2000). "Association between Alzheimer's disease and a functional polymorphism in the Myeloperoxidase gene." World Alzheimer Congress, Washington, DC.

Freeman M, J Shcinka, **Abdullah L**, Richards D, Sevush S, Duara R Mullan M & Crawford F (2000). "The genetic association between Cathepsin D and Alzheimer's disease." World Alzheimer Congress, Washington, DC.

Vanderploeg, R, Waisman M, Crawford F, Michaels L, Selke L, Kundtz A, **Abdullah L**, Salazar A, & Mullan M (2000). Influence of APO E on Memory in TBI Consolidation/ Storage Vrs. Retrieval. 2000 Annual Meeting of the International Neuropsychological Society, Denver.

Crawford FC, Freeman MJ, Schinka J, **Abdullah L**, Morris M, Krivian K, Richards D Gold M., Anand R., Hartman R., Duara R, & Mullan M (2000). Genetic association between a functional polymorphism in the Cystatin C gene (CST3) and late onset Alzheimer's Disease American Journal of Medical Genetics, Versailles, France.

Town T, **Abdullah L**, Crawford F, Schinka J, Ordorica P, Francis E, Hughes P, Duara R, Mullan M. Association of a functional μ-opioid receptor allele (+118A) with alcohol dependency (2000). American Journal of Medical Genetics, Versailles, France.

Crawford F, Freeman M, Schinka J, **Abdullah L,** Morris M, Duara R, and Mullan M. The Cystatin C gene as a novel genetic risk factor for late onset Alzheimer's disease. 1st international Conference on Cerebral Amyloid Angiopathy Boston, Massachusetts, USA.

Ordorica, P., **Abdullah L**, Schinka J, Crawford F, Mortimer J, Graves A and Mullan M. Association of OPMR1+118A Allele with Alcoholism. Annual Meeting of the American Psychiatric Association, Washington, D.C., USA

Tan J, Town T, Placzek A, **Abdullah L** Wu Y, Richards D, Crawford F, and Mullan M (2000). CD45 isoform alteration in CD4+ T cells as a potential diagnostic marker of Alzheimer's disease. Sociatey for Neuroscience, New Orleans, LA.

Crawford FC, Freeman MJ, Schinka J, **Abdullah L**, Morris M, Krivian K, Richards D Gold M., Anand R., Hartman R., Duara R, & Mullan M (2000). Genetic association between a functional polymorphism in the Cystatin C gene (CST3) and late onset Alzheimer's Disease. Sociatey for Neuroscience, New Orleans, LA.

Ait-Ghezala G, Crawford F, Singh S, **Abdullah L**, Richards D, Duara R and Mullan M (2001). Association between D10S583 and Alzheimer's disease in a Case-control sample.

Paris D, Townsend K, Obregon D, Crawford F, Mori T, Humphrey J, Deldone A, **Abdullah L**, Rojiani A and Mullan M (2001). Modulation of Angiogenesis by Aβ peptides. Society for Neuroscience, New Orleans, LA.

Berhane B, Hollen T, Wilson S, **Abdullah L**, Mathura V, Kolippakkam, D, Crowel Parish J, Mullan M and Crawford F (2005). "Proteomic approaches for biomarker identification of the Alzheimer's disease in periphery" 35th Annual Neuroscience meeting

Abdullah L, Bishop A, Phillips J, Mouzon B, Ferguson S, Ganapathi V, Mullan MA, Ait-Ghezala G, Mullan M and Crawford F (2010). Neurobehavioral profiles of two mouse models of Gulf War Illness. *Veterans Administration Research Day.* April, Tampa, Florida (published).

Abdullah L, Bishop A, Phillips J, Mouzon B, Ferguson S, Ganapathi V, Mullan MA, Ait-Ghezala G, Mullan M and Crawford F (2010). Mice exposed to pyridostigmine bromide and pesticide/insect repellent model CNS symptoms associated with Gulf War Illness. *27th Army Conference Proceedings*. December, Orlando, Florida (published).

Abdullah L, Bishop A, Phillips J, Mouzon B, Ferguson S, Ganapathi V, Mullan MA, Ait-Ghezala G, Mullan M and Crawford F (2010). Delayed memory impairment in a new mouse model of Gulf War Illness. *40th Annual Meeting of Society for Neuroscience*. November, San Diego, California (published).

Abdullah L, Bishop A, Phillips J, Mouzon B, Ferguson S, Ganapathi V, Mullan MA, Ait-Ghezala G, Mullan M and Crawford F (2011). Proteomic-based identification of a CNS biological profile of delayed cognitive impairment in mice exposed to gulf war agents. *41st Annual Meeting of Society for Neuroscience*, Washington, D.C.

Luis C, **Abdullah L**, Ferguson S, Ait-Ghezala G, Keegan A, Crawford F, and Mullan M (2011). A Novel Screening Approach for MCI/AD. *International Conference on Alzheimer's Disease meeting.*

Abdullah L, Bishop A, Crynen G, Reed J, Phillips J, Mouzon B, Ferguson S, Mullan MA, Ait-Ghezala G, Mullan M and Crawford F (2011). Proteomic-based identification of a CNS biological profile of delayed cognitive impairment in mice exposed to gulf war agents. *Veterans Administration Research Day.* April, Tampa, Florida (published).

Ferguson S, Mouzon B, Phillips J, Crynen G, Chatow H, Bishop A, **Abdullah L**, Mullan M, Mathura V, Mullan M, Crawford F (2011). CD40 Ligand Deficiency Improves Rate of

Functional Recovery Following Traumatic Brain Injury. *Veterans Administration Research Day.* April, Tampa, Florida (published).

Ferguson S, Mouzon B, Phillips J, Crynen G, Chatow H, Bishop A, **Abdullah L**, Mullan M, Mathura V, Mullan M, Crawford F (2011). CD40 Ligand Deficiency Improves Rate of Functional Recovery Following Traumatic Brain Injury. *National Neurotrauma Symposium*. July, Ft. Lauderdale, Florida

Abdullah L, Evans J, Reed J, Crynen G, Bishop A, Phillips J, Mouzon B, Ferguson S, Mullan M, Pelot R, Moser A, Mullan C, Mathura V, Mullan M, Ait-Ghezala G, Crawford F (2011). Proteomic and lipidomic based CNS profile of delayed cognitive impairment in mice exposed to Gulf War agents**.** *Bioactive lipid conference meeting.* September, Seattle, Washington (published).

Abdullah L, Evans J, Reed J, Crynen G, Bishop A, Phillips J, Mouzon B, Ferguson S, Mullan M, Pelot R, Moser A, Mullan C, Mathura V, Mullan M, Ait-Ghezala G, Crawford F (2011). Proteomic-based identification of a CNS biological profile of delayed cognitive impairment in mice exposed to Gulf War agents. 42nd *Society for Neuroscience Meeting*, Washington, D.C. (published).

Abdullah L, Evans J, Reed J, Pelot R, Bishop A, Crynen G, Phillips J, Mullan MA, Ferro A, Mullan C, Mullan M, Ait-Gehzala G, Crawford F (2012). Lipidomic Profiles of Motor and Anxiety-like features of GWI in Mice Exposed to Pyridostigmine Bromide, N,N-Diethyl-meta-toluamide, Permethrin and Stress**.** American Society for Mass Spectrometry Conference, Vancouver, British Columbia, Canada (published).

Zakirova Z, Tweed M, Crynen G, Reed J, Hart A, Dufresne C, Nissanka N, Bishop A, **Abdullah L**, Crawford F, Mullan M, Mathura V, Ait-Ghezala G (2012). Integrative Analysis of Neurobehavioral, Neuropathological and Proteomic Data from a mouse model of Gulf War Illness. VA Research Day, at James A. Haley Veteran's Hospital, Tampa, FL (published).

Pelot R, Reed J, Evans J, **Abdullah L**, Mullan M, Crawford F (2012). Easy Isolation of Lys-N from *G. frondosa***.** American Society for Mass Spectrometry Conference, Vancouver, British Columbia, Canada (published).

Evans J, **Abdullah L**, Reed J, Pelot R, Bishop A, Crynen G, Mullan MA, Mullan M, Crawford F (2012). Normal phase LCMS with SCID phospholipidomic Analysis of Plasma and Brain from a mouse model of Traumatic Brain Injury. The American Society for Mass Spectrometry Meeting, Vancouver, British Columbia (published).

Abdullah L, Evans J, Gonzalez A, Bishop A, Reed J, Crynen G, Mouzon B, Ferguson S, Pelot R, Mullan C, Mullan M, Ait-Ghezala G, Crawford F (2012). Distinct brain

phospholipidomic profiles in different mouse models of neurocognitive dysfunction. The 42nd Annual Society for Neuroscience meeting, October, 2012, New Orleans, LA (published).

Zakirova Z, Tweed M, Crynen G, Reed J, Hart A, Dufresne C, Nissanka N, Bishop A, **Abdullah L**, Crawford F, Mullan M, Mathura V, Ait-Ghezala G (2012). Integrative Analysis of Neurobehavioral, Neuropathological and Proteomic Data from a mouse model of Gulf War Illness. The 42nd Annual Society for Neuroscience meeting, October, 2012, New Orleans, LA (published).

Crawford F, **Abdullah L**, Evans J, Reed J, Gonzalez A, Bishop A, Mouzon B, Ferguson S, Dretsh M, Mullan M. TBI biomarker discovery using lipidomic and proteomic platforms and translation from laboratory models to human populations. The 43rd Annual Society for Neuroscience meeting, October, 2012, New Orleans, LA (published).

Abdullah L, Evans JE, Montague H, Gonzalez A, Reed J, Crynen G, Shah A, Pelot R, Keegan P, Luis C, Crawford F and Mullan M. Use of lipidomics to identify blood phospholipid biomarkers that distinguish patients with Mild Cognitive Impairment and mild-to-moderate AD from cognitively normal subjects. Alzheimer's Association International Conference, July 2013, Boston Massachusetts (published).

Abdullah L, Evans JE, Montague H, Gonzalez A, Reed J, Crynen G, Shah A, Pelot R, Keegan P, Luis C, Crawford F and Mullan M. Use of lipidomics to identify blood phospholipid biomarkers that distinguish patients with Mild Cognitive Impairment and mild-to-moderate AD from cognitively normal subjects. Society for Neuroscience, November 2013, San Diego, California (published).

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Abdullah (Invited Speaker). TBI Nuances and Next Steps: Focus on Gender and Exposures- Clinical and Research Opportunities, Palo Alto VA, (2023)

Nkiliza, Aldrich, Mouzon, Koprivica, Browning, Evans, Lein, Andrew, Crawford, Mullan, Paris and **Abdullah** (Invited speaker). The role of adaptive immunity in organophosphate induced CNS injury. NINDS CounterACT symposium, Salt Lake City, UT, (2024)

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