

## CURRICULUM VITAE

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### EDUCATION:

1992-1996 King Saud University, College of Pharmacy, Riyadh, Saudi Arabia  
**B. Pharm.**

1998-2004 University of Houston, Department of Pharmacological and  
Pharmaceutical Sciences, College of Pharmacy, Houston, Texas  
77204, USA.  
**Ph.D.** in Pharmacology  
**Title of Dissertation** “Neuroprotective effect of nicotine in stress  
induced memory impairment”  
**Advisor:** Dr. Karim Alkadhi.

### EMPLOYMENT EXPERIENCE:

1996-1998 **Graduate Teaching Assistant**, Department of Pharmacology, College  
of Pharmacy, King Saud University, Riyadh, Saudi Arabia.

2005-Present **Assistant Professor**, Department of Pharmacology, College of  
Pharmacy, King Saud University, Riyadh, Saudi Arabia.

### MEMBERSHIP IN SCIENTIFIC SOCIETIES:

Saudi Pharmaceutical Society (SPS)

Society for Neurosciences (SFN)

## **FACULTY AND ADMINISTRATIVE RESPONSIBILITIES:**

- 2005-2006            **Coordinator**, Graduate student seminar. Department of Pharmacology, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia.
- 2005-Present        **Director**, Pharmacy students training program, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia.
- 2005-Present        **Member**, Doctor of Philosophy in Pharmacology-Developing Committee, Department of Pharmacology, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia.
- 2005-2006            **Member**, The 9<sup>th</sup> International Scientific Pharmacy Meeting and Exposition-Organizing Committee, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia.
- 2006-2007            **Member**, The 7<sup>th</sup> International Saudi Pharmaceutical Conference-Scientific Committee, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia.
- 2007                    **Member**, The Workshop in “Nano Research at Universities: The Road Toward Fulfilling the Vision of the Custodian of the Two Holy Mosques” Organizing Committee, King Saud University, Riyadh, Saudi Arabia.

## **AREAS OF RESEARCH INTEREST:**

- Studying the cellular model of learning and memory (long term potentiation, LTP) using electrophysiological recording from the hippocampus.
- Molecular pharmacology of LTP in the hippocampus, including the expression of crucial proteins involve in memory such as p-CaMKII and calcineurin.
- Studying the mechanisms of memory (short and long term memory) and memory impairment associated with some disease.
- Investigating the effects of neuroprotective drugs on memory and memory impairment by microinjecting tiny concentrations of drugs directly into the hippocampus, which is a brain region crucial for learning and memory.
- Effects of nicotine and sleep-deprivation on memory and synaptic plasticity and their signaling transduction.

## **TEACHING EXPERTISE:**

- PHL 531:      Toxicological Evaluation  
PHL 532:      Biochemical Toxicology  
PHL 542:      Drug Screening  
PHL 522:      Clinical Toxicology

PHL 534:	Environmental Toxicology
PHL 451:	Pharmacology of CNS drugs
PHTL 496:	Pharmaceutical Training I
PHTL 497:	Pharmaceutical Training II
PHTL 498:	Pharmaceutical Training III
PHTL 499:	Pharmaceutical Training IV
PHL 514:	Advance Pharmacology III

### **ACADEMIC SUPERVISION:**

A primary advisor on a Master thesis "Study of Purinergic Modulation of Contractile Activity in Guinea-pig Vas Deferens and the Interaction With Superoxide Anion and Adrenergic Activity" 2007.

### **PUBLICATIONS:**

1. **Aleisa AM**, Al-Majed AA, Al-Yahya AA, Al-Rejaie SS, Bakheet SA, Al-Shabanah OA, and Sayed-Ahmed MM. Reversal by Propionyl-L-carnitine of Cisplatin-Induced Carnitine Deficiency and Energy Starvation in Rat Kidney Tissues. *Nephrology*. (Submitted)
2. KH Alzoubi, **AM Aleisa**, KA Alkadhi. Levothyroxin restores Hypothyroidism-Induced Impairment of Hippocampus-dependent Learning and Memory. (Submitted)
3. **Aleisa, A.M.**, S.S. Al-Rejaie, S.A. Bakheet, A.M. Al-Bekari, O.A. Al-Shabanah, A. Al-Majed, A.A. Al-Yahya, and S. Qureshi, *Effect of metformin on clastogenic and biochemical changes induced by adriamycin in Swiss albino mice*. *Mutat Res*, 2007.
4. Alzoubi, K.H., **A.M. Aleisa**, and K.A. Alkadhi, *Nicotine prevents disruption of the late phase LTP-related molecular cascade in adult-onset hypothyroidism*. *Hippocampus*, 2007. **17**(8): p. 654-64.
5. Alzoubi, K.H., **A.M. Aleisa**, and K.A. Alkadhi, *Adult-onset hypothyroidism facilitates and enhances LTD: reversal by chronic nicotine treatment*. *Neurobiol Dis*, 2007. **26**(1): p. 264-72.
6. Khattab, M.M., M.B. Al-Rawi, and **A.M. Aleisa**, *Postjunctional synergism of norepinephrine with ATP and diadenosine tetraphosphate in Guinea pig vas deferens. Role of protein kinase C and Myosin light chain phosphatase*. *Pharmacology*, 2007. **80**(1): p. 27-32.
7. Alzoubi KH, **Aleisa AM**, Gerges NZ, Alkadhi KA. Nicotine reverses adult-onset hypothyroidism-induced impairment of learning and memory: Behavioral and electrophysiological studies. *J Neurosci Res*. 2006 Oct;84(5):944-53.
8. Alzoubi KH, **Aleisa AM**, Alkadhi KA. Molecular studies on the protective effect of nicotine in adult-onset hypothyroidism-induced impairment of long-term potentiation. *Hippocampus*. 2006;16(10):861-74.

9. Al-Majed AA, Sayed-Ahmed MM, Al-Omar FA, Al-Yahya AA, **Aleisa AM**, Al-Shabanah OA. Carnitine esters prevent oxidative stress damage and energy depletion following transient forebrain ischaemia in the rat hippocampus. *Clin Exp Pharmacol Physiol*. 2006 Aug;33(8):725-33.
10. **Aleisa AM**, Alzoubi KH, Alkadhi KA. Chronic but not acute nicotine treatment reverses stress-induced impairment of LTP in anesthetized rats. *Brain Res*. 2006 Jun 30;1097(1):78-84.
11. **Aleisa AM**, Alzoubi KH, Gerges NZ, Alkadhi KA. Chronic psychosocial stress-induced impairment of hippocampal LTP: possible role of BDNF. *Neurobiol Dis*. 2006 Jun;22(3):453-62.
12. Al-Majed AA, Sayed-Ahmed MM, Al-Yahya AA, **Aleisa AM**, Al-Rejaie SS, Al-Shabanah OA. Propionyl-L-carnitine prevents the progression of cisplatin-induced cardiomyopathy in a carnitine-depleted rat model. *Pharmacol Res*. 2006 Mar;53(3):278-86.
13. **Aleisa AM**, Alzoubi KH, Gerges NZ, Alkadhi KA. Nicotine blocks stress-induced impairment of spatial memory and long-term potentiation of the hippocampal CA1 region. *Int J Neuropsychopharmacol*. 2006 Aug;9(4):417-26.
14. **Aleisa AM**, Alzoubi KH, Alkadhi KA. Nicotine prevents stress-induced enhancement of long-term depression in hippocampal area CA1: electrophysiological and molecular studies. *J Neurosci Res*. 2006 Feb 1;83(2):309-17.
15. Alzoubi KH, **Aleisa AM**, Alkadhi KA. Impairment of long-term potentiation in the CA1, but not dentate gyrus, of the hippocampus in Obese Zucker rats: role of calcineurin and phosphorylated CaMKII. *J Mol Neurosci*. 2005;27(3):337-46.
16. Alkadhi KA, Alzoubi KH, **Aleisa AM**, Tanner FL, Nimer AS. Psychosocial stress-induced hypertension results from in vivo expression of long-term potentiation in rat sympathetic ganglia. *Neurobiol Dis*. 2005 Dec;20(3):849-57.
17. Alkadhi KA, Alzoubi KH, **Aleisa AM**. Plasticity of synaptic transmission in autonomic ganglia. *Prog Neurobiol*. 2005 Feb;75(2):83-108. Review.
18. Alzoubi KH, Bedawi AS, **Aleisa AM**, Alkadhi KA. Hypothyroidism impairs long-term potentiation in sympathetic ganglia: electrophysiologic and molecular studies. *J Neurosci Res*. 2004 Nov 1;78(3):393-402.
19. Gerges NZ, **Aleisa AM**, Schwarz LA, Alkadhi KA. Reduced basal CaMKII levels in hippocampal CA1 region: possible cause of stress-induced impairment of LTP in chronically stressed rats. *Hippocampus*. 2004;14(3):402-10.
20. Gerges NZ, **Aleisa AM**, Alkadhi KA. Impaired long-term potentiation in obese zucker rats: possible involvement of presynaptic mechanism. *Neuroscience*. 2003;120(2):535-9.

21. Gerges NZ, **Aleisa AM**, Schwarz LA, Alkadhi KA. Chronic psychosocial stress decreases calcineurin in the dentate gyrus: a possible mechanism for preservation of early ltp. *Neuroscience*. 2003;117(4):869-74.
22. Gerges NZ, **Aleisa AM**, Alhaider AA, Alkadhi KA. Reduction of elevated arterial blood pressure in obese Zucker rats by inhibition of ganglionic long-term potentiation. *Neuropharmacology*. 2002 Dec;43(7):1070-6.

## **ABSTRACTS:**

1. **A. M. Aleisa** and A. A. Alhaider: Role of  $\alpha$ 2-adrenoceptors, 5-HT<sub>3</sub>, GABAergic and opioid receptors in the antinociceptive effect of K/ATP channel openers. *Soc. Neuroscience*, 2000.
2. Gerges, N. Z., **A. M. Aleisa**, and K. A. Alkadhi.: Differential effects of hypothyroidism and stress on LTP hippocampus of anesthetized rat. *FASEB J* 15:A223 , 2001.
3. **Aleisa, A. M.**, N. Z. Gerges, A. A. Alhaider and K. A. Alkadhi. Chronic nicotine treatment prevents stress-induced impairment of hippocampal long term potentiation in anesthetized rats. *Soc. Neuroscience*, 27: 2001
4. **Aleisa AM**; Al-Zoubi KH; Gerges NZ; and KA Alkadhi: chronic nicotine treatment reverses hypothyroidism-induced impairment of LTP in the CA1 region of anesthetized rats. *Soc. Neuroscience*, 28: 2002
5. **A. M. Aleisa**; K. H. Al-Zoubi; N. Z. Gerges, NZ; K. A. Alkadhi. "Chronic nicotine treatment prevents stress-induced short term memory impairment" *Soc. Neuroscience*, 2003.
6. KH Al- zoubi, **AM Aleisa**, AS Bedawi, KA Alkadhi. "Chronic nicotine treatment reverses hypothyroid-induced impairment of hippocampus -dependent learning and memory" *Soc. Neuroscience*, 2003.
7. DC Eikenburg, KH Al-Zoubi, AS Bedawi, **AM Aleisa** and KA Alkadhi. "Elevation of phosphorylated-CaMKII in superior cervical ganglia from stressed rats" *Soc. Neuroscience*, 2003.
8. **A. M. Aleisa**, K. H. Alzoubi, A. S. Bedawi, K. A. Alkadhi. "Chronic Nicotine Treatment Prevents Stress-Induced LTD Enhancement: A Critical Role of BDNF" *Soc. Neuroscience*, 2004.
9. M.M. Srivareerat; K.H. Alzoubi; A.S. Bedawi; **A.M. Aleisa**; K.A. Alkadhi. "Elevation of phosphorylated CaMKII in superior cervical ganglia from obese-Zucker rats" *Soc. Neuroscience*, 2004.
10. K.A. Alkadhi; K.H. Alzoubi; **A.M. Aleisa**. "The critical role of CREB in hypothyroidism induced L-LTP impairment" *Soc. Neuroscience*, 2004.

11. K.H. Alzoubi; **A.M. Aleisa**; N.Z. Gerges; K.A. Alkadhi. "Chronic nicotine treatment reverses hypothyroidism-induced LTP impairment: The critical role of phosphorylated CaMKII and BDNF" Soc. Neuroscience, 2004.
12. K.A. Alkadhi, K.H. Alzoubi, **A.M. Aleisa**. "*IN VIVO* EXPRESSION OF GANGLIONIC LONG-TERM POTENTIATION IN SUPERIOR CERVICAL GANGLIA FROM AGED RATS" Soc. Neuroscience, 2005.
13. T.T. Tran, **A.M. Aleisa**, K.H. Alzoubi, K.A. Alkadhi. "CHRONIC BUT NOT ACUTE NICOTINE TREATMENT REVERSES STRESS-INDUCED IMPAIRMENT OF LTP IN ANESTHETIZED RATS" Soc. Neuroscience, 2005.
14. K.H. Alzoubi, **A.M. Aleisa**, K.A. Alkadhi. "CHRONIC NICOTINE TREATMENT RESTORES HYPOTHYROIDISM INDUCED L-LTP IMPAIRMENT: CRITICAL ROLE OF CREB" Soc. Neuroscience, 2005.
15. **A.M. Aleisa**, K.H. Alzoubi, N.Z. Gerges, K.A. Alkadhi. "CHRONIC NICOTINE TREATMENT PREVENTS STRESS-INDUCED IMPAIRMENT OF LTP: A POSSIBLE INVOLVEMENT OF PROTEIN KINASE ACTIVATION" Soc. Neuroscience, 2005.
16. **A. M. Aleisa**, M. Sayed-Ahmed, F. AL-Omar, A. AL-Yahya, O. Al-Shabanah, S. Al Rejaie, A. Al-Majed. "Carnitine esters prevents oxidative stress damage and energy depletion following transient forebrain ischemia in the rat hippocampus" Soc. Neuroscience, 2006.
17. K. H. Alzoubi, **A. M. Aleisa**, K. A. Alkadhi. " Hypothyroidism-induced enhancement of LTD: reversal by nicotine and possible role of NMDA receptors" Soc. Neuroscience, 2006.