

Curriculum Vitae

NAME: Hossam Abdelnaby Shaltout, Ph.D, RPh

ACADEMIC TITLE: Assistant Professor

ADDRESS: Hypertension & Vascular Research Center
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Wake Forest University School of Medicine
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EDUCATION:

2005 - 2011 Post-doctoral Training – Hypertension and Vascular Research Center, Wake Forest University, Winston-Salem, North Carolina

2000- 2005 Ph.D. Pharmacology and Toxicology Department, East Carolina University, School of Medicine, Greenville, North Carolina
“Mechanisms underlying the cardiovascular response to immunosuppressants”

1996-2000 Finished M.S. courses in the Department of Pharmacology and Toxicology, School of Pharmacy, Alexandria University, Alexandria, Egypt

1989- 1993 B.S. Pharmaceutical Sciences, School of Pharmacy, Alexandria University, Alexandria, Egypt

CERTIFICATIONS:

2009 Foreign Pharmacy Graduate Equivalency Certificate

2008 – present CITI – Training on the Protection of Human Subjects
Wake Forest University Health Sciences, 2008

EMPLOYMENT:

Jul 11- present Assistant Professor and Director of The Hypertension Clinic-
Hypertension & Vascular Research Center, Obstetrics and Gynecology
Department, Wake Forest University School of Medicine

Jul 12- present Associate Professor- Department of Pharmacology and Toxicology,
School of Pharmacy, Alexandria University, Alexandria, Egypt

Aug12- Jun 13 Assistant Professor- Department of Pharmacology and Toxicology,
School of Pharmacy, Alexandria University, Alexandria, Egypt

Aug 07-Jul 11	Post-doctoral research fellow. Hypertension and Vascular Research Center, Wake Forest University, School of Medicine, Winston Salem, North Carolina
May 07-Jun 07	Visiting lecturer at the school of Pharmacy, Beirut Arab University, Beirut, Lebanon
Dec 06- Aug 07	Lecturer at the Department of Pharmacology and Toxicology, School of Pharmacy, University of Alexandria, Egypt
Aug 05- Nov 06	Research fellow in the Hypertension and Vascular Disease Center at Wake Forest University, School of Medicine, Winston- Salem, North Carolina
Aug 04-Aug 05	Research assistantship from Department of Pharmacology & Toxicology, School of Medicine, East Carolina University, Greenville, North Carolina
Aug 2000-05	Graduate student in Ph.D. program at East Carolina University, Department of Pharmacology & Toxicology, Greenville, North Carolina
Sep 96- Jul 2000	Instructor in Department of Pharmacology, School of Pharmacy, University of Alexandria, Egypt.
Jun 95- Jul 96	Medical representative in the cardiovascular and CNS line, Ciba Geigy (Novartis), Alexandria, Egypt.
Dec 93- May 95	Pharmacist in drug manufacturing for sterile products and ampules at Alexandria. Co. for Chemicals and Pharmaceuticals, Egypt.
Jun 93- Sep 96	Retail pharmacist in private pharmacies

PROFESSIONAL SOCIETIES AND MEMBERSHIPS:

1993-present	Egyptian Pharmacy Syndicate
2000-present	American Society of Pharmacology & Therapeutics, Member
2003-present	Sigma Xi, The Scientific Research Society
2006-present	American Heart Association, Council for High Blood Pressure Research, Member
2015-present	American Heart Association, Council for High Blood Pressure Research, Fellow
2005-present	Wake Forest University Postdoctoral Association
2006-present	Western North Carolina Society for Neuroscience
2006-present	Consortium for Southeastern Hypertension Control
2008-present	American Physiological Society
2009-present	American Physiological Society- Water and Electrolyte Homeostasis, Cardiovascular Section, Neural Control and Autonomic Regulation Section
2009-present	American Society of Pharmacology & Therapeutics- Cardiovascular Section Executive Committee

HONORS and AWARDS:

- 2014 **Invited speaker** at 2014 APS workshop “Translation of Cardiovascular Endpoints Across Species” Experimental Biology 2014, San Diego CA
- 2014 **Invited speaker** at 2014 ASPET symposium “Fetal programming and cardiovascular disease” Experimental Biology 2014, San Diego CA
- 2012 **WFU Research Excellence Award**
- 2011 **Arthur Guyton New Investigator Award** from **Consortium for Southeastern Hypertension Control** presented at the 18th annual scientific sessions. Nov 4th 2011.
- 2011 Appointed as a member to the Executive **Committee Member** of the **American Society of Pharmacology and Experimental Therapeutics- Division of Cardiovascular Pharmacology**.
- 2010 Selected as the **Wake Forest University Postdoctoral Fellow of the year 2010** for the recognition of outstanding research, scholarship and service to the university
- 2010 Listed in **Marquis Who’s Who in America 2011**.
- 2010 Appointed as a co-chair of public relation and communication committee and member of the executive committee of the **American Society of Pharmacology and Experimental Therapeutics- Division of Cardiovascular Pharmacology** October 2010.
- 2009 Received the **Gold Award** for the best poster in basic science in the **Division of Surgical Sciences Seventeenth Annual Residents and Fellows Research Day** at Wake Forest University School of Medicine, Winston Salem, NC, November 2009.
- 2009 Appointed as a **committee member** to the **American Society of Pharmacology and Experimental Therapeutics- Division of Cardiovascular Pharmacology**. Competition and recruitment committees.
- 2007 Best Postdoctoral Poster Award in the meeting of the **Western NC Chapter of the Society for Neuroscience**, Winston Salem, NC, December 2007.
- 2006 **International Society of Hypertension Young Investigator Travel Grant** to attend ISH2006 meeting in Fukuoka Japan, October 2006.
- 2006 **ASPET Young Scientist Travel Award** to attend Experimental Biology Meeting, April 2006, San Francisco, CA.
- 2005 Nominated as one of the four students from ECU to attend “A Gathering of Nobel Laureates: Science for the 21st century” in UNC Charlotte, Feb 28th 2005.
- 2004 **William Valentine Jr** award for the best graduate student achievement in School of Medicine year 2004.
- 2004 **East Carolina University, School of Nursing Research Assistantship** (Spring 2004)
- 2003 **ASPET Graduate Student Travel Award** to attend the Experimental Biology Meeting, 2003. San Diego, CA.
- 2004 **East Carolina University, Department of Pharmacology Research Assistantship** (Aug 2004- May 2005).
- 2000 **Egyptian Government Mission Scholarship** to get the PhD in Pharmacology at School of Medicine, East Carolina University (Aug. 2000- Aug. 2004), (Government Mission Program).
- 1993 **Egyptian Pharmaceutical Companies Award** for top graduate in pharmaceutical sciences (1993).

TEACHING EXPERIENCE:

- Nov 15 IPP 738 (Lecture and demonstration of different methods for the assessment of autonomic function in sheep and human)
- Oct 15 IPP 701 (Pharmacokinetics and Pharmacodynamics section). I will be course co-director starting fall 2016
- April 15 Teaching IPP and MCB 702, Lectures about cardiac drugs
- Sep 14, 15 Teaching IPP715 - Techniques in Physiology class
- Aug 14 Mentored one undergraduate student at Wake Forest University- Economic School for one summer. She studied the correlation between heart rate variability in monkeys and social ranking and its modulation by menopausal status.
- Aug 14-Jul 15 Mentored a student from Postbaccalaureate Research Education Program who studied the effect of obesity on neuronal control of cardiovascular system in sheep and the effect of antenatal betamethasone exposure
- Aug 12-Aug13 Teaching at Pharmacology and Toxicology department, School of Pharmacy, University of Alexandria, Egypt (class size= 1,400) for the following topics
- Pharmacology of autonomic system, 8 lectures
 - Biochemistry of lipids (8 lectures)
 - Biological assay (16 lectures)
 - Drug-drug interaction (30 lectures)
 - Veterinary Pharmacology (14 lectures)
- My duties include
- Preparation and delivery of lectures
 - Design of laboratory experiments
 - Small group discussions
 - Designed, proctored and graded exams
 - Instructed and advised undergraduate students
- 2006-present Mentor to Excellence in Cardiovascular Sciences (EICS) summer students
- 2012 Taught the sympathetic and parasympathetic drugs in the Pharmacology course for medical students at Wake Forest School of Medicine, class 2015.
- 2010-2010 Medical Student SPA Exam Basic Science Evaluator, Wake Forest University
- 2007-2010 Mentor for 3 Brazilian Exchange Students
- 2009, 2012 Taught in the Pharmacology course for Master in Physical Therapy program at Winston Salem State University
- 2006-2007 Mentored 1 student in the Master program in Pharmacology and Toxicology department, School of Pharmacy, University of Alexandria, Egypt

- 2007 Teaching introduction to Pharmacology, Cardiovascular Pharmacology and Biological assay (total 48 lectures) at Pharmacology and Toxicology department, School of Pharmacy, University of Alexandria, Egypt
My duties included
Preparation and delivery of lectures
Design of laboratory experiments
Directed small group discussions
Designed, proctored and graded examinations
Instructed and advised undergraduate students
- 2006-2007 Developed syllabus and courses taught to 4th and 5th year pharmacy students in School of Pharmacy, Beirut Arab University, Lebanon in the following topics Toxicology, Biological Assay and Biological Quality Control (total 42 lectures).
- 1996-2000 Teaching Pharmacology, Biochemistry, Biological assay and Toxicology labs as Instructor in Pharmacology and Toxicology department, School of Pharmacy, University of Alexandria, Egypt.

Academic activities

- 2015 Judge for the Trainee Poster Session at the AHA- Council for High Blood Pressure Research meeting, Washington DC, September 2015
- 2015-2011 Co-director of the Hypertension and Vascular Research Center Journal Club
- 2011 Judge for the poster competition for the Wake Forest Eleventh Annual Graduate Student and Postdoctoral Research Day
- 2011 Member of the selection committee for the Wake Forest Scholar Development Award
- 2012 Member of the occupational health and safety committee at School of Pharmacy, Alexandria University, Egypt
- 2012 Graduate advisor for the graduate students at the Department of Pharmacology and Toxicology, School of Pharmacy, Alexandria University, Egypt
- 2013-current Member of the Integrated Physiology and Pharmacology curriculum committee
- 2010- Member of thesis committees for 4 graduate students in the Integrated Physiology and Pharmacology, neuroscience programs

Reviewer for the following journals

- Hypertension, the American Heart Association Journal.
- British Journal of Pharmacology
- American Journal of Physiology, Heart and Circulatory Physiology
- PLOS ONE
- BioMed Research International
- Journal of Diabetes and Metabolism. OMICS Publishing Group
- Vascular health and Risk Management. Official journal of the International Society of Vascular Health (ISVH). Dove Press
- Integrated Blood Pressure Control. Dove Press

- Research Reports in Clinical Cardiology. Dove press
- Drug Design, Development and Therapy. Dove press
- **Member of the Editorial Board** of the newly founded “**World Journal of Hypertension**”, Baishideng Publishing Group

PROFESSIONAL INTERESTS:

Research Interests Hypertension, Aging, Fetal Programmed Adult Disease, Neural Control of the Circulation, Metabolic and Renal Function, Renin-angiotensin system, Neuroscience, Peptide Neurotransmitters and Receptors

Research in Progress:

Investigation of brain role in blood pressure regulation. Emphasis is on the interaction between the renin angiotensin system components and the autonomic nervous system in different pathological conditions such as hypertension, metabolic syndrome, premature delivery, PTSD and aging. Approaches include whole animal physiological studies to test the effect of interruption of the renin angiotensin system either peripherally or centrally on the development of hypertension and metabolic disorder in animal model of antenatal exposure to betamethasone. Assessment of the RAS peptides, enzymes activity and receptors levels in multiple tissues of different animal models. Studies to assess cardiovascular actions and signaling mechanisms of peptide transmitters at specific brain sites. I am also interested in neural and hormonal systems interactions in PTSD subjects and the changes in the autonomic nervous system and cardiovascular system after noninvasive treatment of brain wave optimization. Studies to compare the effect of western diet or Mediterranean diet on cardiovascular measures and the modulatory effect of social ranking on this response. Collaborative activities include investigations of the renin-angiotensin system and neural control of the circulation and indices of autonomic function in elderly hypertensives fed a high nitrate diet, and pediatric subjects with orthostatic intolerance.

GRANTS

CURRENT:

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|---------------------|---|
| 1/1/2016-12/31/2019 | AHA- Scientist Development grant to perform comprehensive assessment of vascular and autonomic function in children with low vitamin D. (Shaltout , Principal investigator); \$301,913 |
| 1/1/2011-6/30/2016 | Research Grant Susan Marcus Foundation, Brainwave Optimization in Insomnia. Charles Tegeler (PI) 10% as co-investigator; \$2,120,000 |
| 7/1/2011-6/30/2016 | NIH, P01 HD 047584 Program Project Grant (Fetal Origins of Adult Disease): James C. Rose, Principal Investigator: 40% as Co-Leader of Project 3 (Brain Angiotensins and the Baroreflex); \$674,619 for FY |

	7/1/11 to 6/30/16 for Project 3 (DI Diz, Responsible Investigator)
12/1/2014-11/30/2015	HIRREM in the Aging Brain. Pilot grant funded by Center of Integrative Medicine and Translational Science Center. \$15,374, Co-Investigator; (Paul Laurienti, Principal Investigator)
7/1/2014-9/30/2015	HIRREM for Mitigation of PTSD Symptoms in Military Personnel. Funded by Department of Defense, Charles Tegeler, Principal Investigator: 10% as Co-Investigator; \$107,000
01/01/2015-06/30/2015	Small Business Technology Transfer Grant, Department of Defense, Sung Lee, Principal Investigator: 1% as Co-Investigator; \$41,937
10/01/2014-9/30/2015	Pilot Grant from the Hypertension and Vascular Research Center to study Vitamin D levels in adolescents suffering from orthostatic intolerance. Shaltout, PI; \$2,120
7/1/2015-6/30/2018	NIH Grant to study the effect of diet on cardiovascular function in non-human primates, Carol Shively Principal Investigator; 5% as co-investigator
8/01/2015-7/30/2016	Maya Angelou Center for Health Equity, the Sticht Center on Aging and HVRC, Wake Forest pilot grant titled social disparities in diet effects on blood pressure in adult female nonhuman primates. Role Co-investigator; \$30,000
PENDING GRANTS/RESUBMISSION:	
1/1/2016-12/31/2017	AHA-Innovative Research Award. Non-invasive Real-time Measures of Neurotransmitters Related to Control of Cardiovascular Function in Human Subjects. Role Collaborator; 10%; \$154,000 (planned resubmission)
1/1/2016-12/31/2019	Congressionally Directed Medical Research Program Grant, Department of Defense. (Tegeler PI). Clinical studies of a noninvasive closed-loop neurotechnology for supporting symptom reduction after mild traumatic brain injury. 10% as Co-Investigator; \$891,510
01/01/16-01/01/18	GE/NFL Head Health Challenge, Tegeler (PI). Generation of a brain-heart axial integration index (BHAI) to predict risk of developing post-concussion syndrome following acute mild traumatic brain injury (mTBI), Co-investigator
07/01/15- 07/01/19	Insomnia in Veterans: Evaluation of HIRREM, EEG-Based Auto-Calibration Therapy. Taber KH (PI), \$ 770,000, Co-investigator

- 07/01/16- 06/30/21 Sex Dependant Contribution of Ang-(1-7) in Programmed Hypertension, Rose (PI). 10% as Co-Investigator
- 4/1/2014-3/31/2019 NIH, P01 NHLBI HL122175 (Angiotensin-Endocannabinoids in Neurohumoral Control): DI Diz Principal Investigator: 15% as Co-Investigator, Project 1) \$254,824
Project 1: Brain Angiotensin-Endocannabinoids and Neurohumoral Control (DI Diz, Responsible Investigator)
- 4/1/2014-3/31/19 NIH, P01 NHLBI HL122175 (Angiotensin-Endocannabinoids in Neurohumoral Control): DI Diz Principal Investigator: 10% as Research Associate, Core D) \$154,195
Core D: Animal Resource Facility (J Varagic, Responsible Investigator)
- 7/1/2016-6/30/2018 NIH, R21 (Sex Dependent Contribution of Ang-(1-7) in Programmed Hypertension): Jim Rose (PI), 10% as coinvestigator
- Planned resubmission AHA Beginning Grant in Aid, H Shaltout (PI). Role of RAS in Insulin Resistance in a Sheep Model of Programmed Hypertension; \$154,000 FY 07/01/13 to 06/30/15
- Planned resubmission NIH R21, G Miller, D Kim-Shapiro (PIs). (Mechanisms involved in optimal delivery of oral nitrate for reducing blood pressure) 10% as Co-Investigator; \$275,000 FY 04/01/14 to 03/31/16
- PREVIOUS GRANTS:
- 7/1/11-12/31/14 Research Grant from Brain State Technologies (Brainwave Optimization in Insomnia): Charles Tegeler, Principal Investigator: 20% as Co-Investigator; \$300,000 for FY 7/1/11 to 6/30/15
- 4/1/09-3/31/15 NIH, P01 NHLBI HL51952 (Vasodepressor Mechanisms in Hypertension): Carlos M. Ferrario Principal Investigator: 7.50% as Research Associate, Project 4) \$194,922
Project 4: The Baroreflex in Aging and Angiotensin Peptide Receptors (DI Diz, Responsible Investigator)
- 4/1/09-3/31/15 NIH, P01 NHLBI HL51952 (Vasodepressor Mechanisms in Hypertension): Carlos M. Ferrario Principal Investigator: 7.5% as Research Associate, Core D) \$135,195
Core D: Congenic- Transgenic Animal Resource Facility (J Varagic, Responsible Investigator)
- 01/01/11-12/31/13 AHA clinical research program award, J Fortunato (PI). Elevated Supine MAP in Children with Cardiovascular Dysautonomia, Role: Consultant

01/01/13-12/31/14	AHA BGI, T Brinkley (PI). Exercise, Weight loss, and Arterial Stiffness in Obese, Older Adults. Consultant; \$154,000 FY 01/01/13 to 12/31/14
7/1/05-6/30/09	NIH, NICHD HD047584 Program Project Grant (Fetal Origins of Adult Disease): James C. Rose, Principal Investigator: 30% as Research Associate in Project 1 (Impact of Antenatal Steroid Exposure on the Intrarenal Renin-angiotensin system, Renal Function and Blood Pressure)
7/1/05-6/30/10	NIH, NICHD HD047584 Program Project Grant (Fetal Origins of Adult Disease): James C. Rose, Principal Investigator: Project 3 Project Leader Debra I. Diz: 70% as Co-Investigator of Project 3 (Brain Angiotensins and the Baroreflex); \$534,619 for FY 7/1/05 to 6/30/11 for Project 3
1/01/10-6/01/13	P30-AG21332 Claude D. Pepper Older Americans Independence Center of Wake Forest University School of Medicine. Pilot Study: "Understanding and Addressing Pathways to Physical Disability in Older Persons" Magnetic Resonance Spectroscopy Assessment of Brain Transmitters Correlating with Autonomic Function in Elderly Human Subjects D. Diz, PI. 40% as Co-Investigator, \$35,000 01/10-6/11.

PUBLICATIONS

JOURNAL ARTICLES:

1. **Shaltout HA**, Abdel-Rahman AA. Cyclosporine induces progressive attenuation of baroreceptor heart rate response and cumulative pressor response in conscious unrestrained rats. *J Pharmacol Exp Ther.* 2003 Jun;305(3):966-73.
2. **Shaltout HA**, Abdel-Rahman AA. Mechanism of fatty acids induced suppression of cardiovascular reflexes in rats, *J Pharmacol Exp Ther.* 2005 Sep;314(3):1328-37.
3. **Shaltout HA**, Westwood BM, Averill DB, Ferrario CM, Figueroa JP, Diz DI, Rose JC and Chappell MC. Angiotensin metabolism in renal proximal tubules, urine, and serum of sheep: evidence for ACE2-dependent processing of angiotensin II. *Am J Physiol Renal Physiol.* 2007 Jan;292(1):F82-91.
4. **Shaltout HA**, Figueroa JP, Rose JC, Diz DI, Chappell MC. Alterations in circulatory and renal angiotensin-converting enzyme and angiotensin-converting enzyme 2 in fetal programmed hypertension. *Hypertension*, 2009 Feb;53(2):404-8. PMID:PMC2674380
5. Westwood, B.M, **Shaltout, HA**, Chappell, MC. Modeling of angiotensin peptide metabolism in renal proximal tubules. (2009) Proceedings of the ASME Summer Bioengineering Conference, SBC2008, pp. 181-182.
6. Gwathmey TM, **Shaltout HA**, Pendegrass KD, Pirro NT, Figueroa JP, Rose JC, Diz DI, Chappell MC. Nuclear Angiotensin II type 2 (AT₂) receptors are functionally linked to nitric oxide production. *Am J Physiol Renal Physiol.* 2009 Jun;296(6):F1484-93. PMID:PMC2692453

7. Arnold AC, **Shaltout HA**, Gallagher PE, Diz DI. Leptin impairs cardiovagal baroreflex function at the level of the solitary tract nucleus. *Hypertension*, 2009 Nov; 54(5):1001-8. PMID:PMC2789663
8. Garcia-Espinosa MA, **Shaltout HA**, Olson J, Westwood BM, Robbins ME, Link K, Diz DI. Proton magnetic resonance spectroscopy detection of neurotransmitters in dorsomedial medulla correlate with spontaneous baroreceptor reflex function. *Hypertension*, 2010 Feb;55(2):487-93. PMID:PMC2826127
9. **Shaltout HA, Rose, JC**, Figueroa JP, Chappell MC, Diz DI, Averill DB. Acute AT1 receptor blockade reverses the hemodynamic and baroreflex impairment in adult sheep exposed to antenatal betamethasone. *Am J PhysiolHeart Circ Physiol*. 2010 Aug; 299(2):H541-7. PMID:PMC2930394
10. Arnold AC, Isa K, **Shaltout HA**, Nautiyal M, Ferrario CM, Chappell MC, Diz DI. Angiotensin-(1-12) requires angiotensin converting enzyme and AT1 receptors for cardiovascular actions within the solitary tract nucleus. *Am J PhysiolHeart Circ Physiol*. 2010 Sep; 299(3):H763-71. PMID:PMC2944473
11. Gwathmey TM, **Shaltout HA**, Rose JC, Diz DI, and Chappell MC. Glucocorticoid-induced fetal programming alters the functional complement of angiotensin receptor subtypes within the kidney. *Hypertension*. 2011 Mar;57(3):620-6. PMID:PMC3041840
12. Diz DI, Arnold AC, Nautiyal M, Isa K, **Shaltout HA** and Tallant EA. Angiotensin peptides and central autonomic regulation. *Curr Opin Pharmacol*. 2011 Apr;11(2):131-7. PMID: 21367658. PMID:PMC3120135
13. **Shaltout HA**, Chappell MC, Rose JC and Diz DI. Exaggerated sympathetic mediated responses to behavioral or pharmacological challenges following antenatal betamethasone exposure. *Am J Physiol Endocrinol Metab*. 2011 Jun;300(6):E979-85. PMID: 21386063. PMID:PMC3118588
14. Arnold AC, **Shaltout HA**, Gilliam-Davis S, Kock N, and Diz DI. Autonomic control of the heart is altered in Sprague-Dawley rats with spontaneous hydronephrosis. *Am J Physiol Heart Circ Physiol*. 2011 Jun;300(6):H2206-13. PMID: 21460193. PMID:PMC3119102
15. Logan EM, Aileru AA, **Shaltout HA**, Averill DB, Diz DI. The functional role of PI₃K in maintenance of blood pressure and baroreflex suppression in (mRen2)²⁷ and mRen2.Lewis rat. *J Cardiovasc Pharmacol*. 2011 Oct;58(4):367-73. PMID: 21697727. PMID:PMC3188661
16. Fortunato JE, **Shaltout HA**, Larkin MM, Rowe PC, Diz DI, Koch KL. Fludrocortisone improves nausea in children with orthostatic intolerance. *Clinical Autonomic Research, Clin Auton Res*. 2011 Dec;21(6):419-23. PMID: 21796356
17. **Kemper KJ, Shaltout HA**. Non-verbal communication of compassion: measuring psychophysiological effects. *BMC Complement Altern Med*. 2011 Dec 20;11:132. PMID: 22185349. PMID:PMC3260157
18. **Shaltout HA**, Rose JC, Chappell MC and Diz DI. Angiotensin-(1-7) deficiency and baroreflex impairment precede the antenatal Betamethasone exposure-induced elevation in blood pressure. *Hypertension*. 2012 Feb;59(2):453-8. PMID: 22215705
19. **Shaltout HA**, Tooze JA, Rosenberger E, Kemper KJ. Time, Touch, and Compassion: Effects on Autonomic Nervous System and Well-being. *Explore (NY)*. 2012 May-Jun;8(3):177-84 : PMID: 22560756
20. Garcia-Espinosa MA, **Shaltout HA**, Gallager PE, Chappell MC and Diz DI. In vivo

expression of angiotensin-(1-7) lowers blood pressure and improves baroreflex function in transgenic (mRen2)27 rats. *J Cardiovasc Pharmacol.* 2012 Aug;60(2):150-7. PMID: 22526299. PMCID:PMC3419797

21. Nautiyal M, **Shaltout HA**, de Lima DC, do Nascimento K, Chappell MC, Diz DI. Central angiotensin-(1-7) improves vagal function independent of blood pressure in hypertensive (mRen2)27 rats. *Hypertension.* 2012 Nov;60(5):1257-65. PMID: 23045456. PMCID:PMC3491885
22. Nautiyal M, **Shaltout HA**, de Lima DC, do Nascimento K, Chappell MC, Diz DI. Response to Angiotensin-(1-7) and Bradykinin in Baroreceptor Reflex Sensitivity in Hypertension. *Hypertension.* 2013 Feb;61(2):e20. Erratum in: *Hypertension.* 2013 May;61(5). Shaltout, Hossam A [added]; de Lima, Daniel C [added]; do Nascimento, Kenia [added].
23. Marshall AC, **Shaltout HA**, Nautiyal M, Rose JC, Chappell MC, Diz DI. Fetal betamethasone exposure attenuates angiotensin-(1-7)-Mas receptor expression in the dorsal medulla of adult sheep. *Peptides*, 2013 Jun; 44C:25-31. PMCID:PMC3690463
24. Marshall AC, **Shaltout HA**, Pirro NT, Rose JC, Diz DI, Chappell MC. Antenatal betamethasone exposure is associated with lower ANG-(1-7) and increased ACE in the CSF of adult sheep. *Am J Physiology: Regul Integr Comp Physiol*, 2013 Oct; 305(7):R679-R688. PMCID:PMC3798802
25. Marshall AC, **Shaltout HA**, Pirro NT, Rose JC, Diz DI, Chappell MC. Enhanced activity of an angiotensin-(1-7) neuropeptidase in glucocorticoid-induced fetal programming. *Peptides.* 2013 Dec 16;52C:74-81. doi: 10.1016/j.peptides.2013.12.006. PMID:24355101
26. Tegeler CH, Lee SW, **Shaltout HA**. Significance of right anterior insula activity for mental health intervention. Letter to editor, *JAMA Psychiatry.* 2014;71(3):336. PMID: 24599239
27. Fortunato JE, Wagoner AL, Harbinson RL, D'Agostino RB, **Shaltout HA** and Diz DI. Effect of fludrocortisone acetate on chronic unexplained nausea and abdominal pain in children with orthostatic intolerance. *JPGN*, 2014; 59(1): 39-43. PMID: 25222805
28. Chappel MC, Marshall AC, Alzayadneh EM, **Shaltout HA**, Diz DI. Update on the ACE2-Angiotensin-(1-7)-Mas receptor axis: Intracellular actions, fetal programming and sex differences. *Front Endocrinol* 2014;4:1-13. PMID: 24409169
29. Tarbell S, **Shaltout HA**, Wagoner AL, Diz DI, Fortunato JE. Relationship among nausea, anxiety, and orthostatic symptoms in pediatric patients with chronic unexplained nausea. *Exp Brain Res.* 2014 Aug;232(8):2645-50. PMID: 24829068.
30. Schaich CL, **Shaltout HA**, Brosnihan KB, Howlett AC and Diz DI. Acute and chronic systemic CB1 cannabinoid receptor blockade improves blood pressure regulation and metabolic profile in hypertensive (mRen2)27 Rats. *Physiol Rep.* 2014 Aug 28;2(8). pii: e12108. PMID: 25168868
31. Lee SW, Gerdes L, Tegeler CC, **Shaltout HA** and Tegeler CH. A bihemispheric autonomic model for traumatic stress effects on health and behavior. *Front Psychol.* 2014 Aug 1;5: 843. PMID: 25136325
32. El-Bassossy H and **Shaltout HA**, Allopurinol alleviates hypertension and proteinuria in high fructose, high salt and high fat induced model of metabolic syndrome. *Translational Research.* 2014 Nov 29. pii: S1931-5244(14)00424-1. PMID: 2552872

33. Schaich CL, **Shaltout HA**, Grabenaur M, Thomas BF, Gallagher P, Howlett AC and Diz DI. Alterations in the medullary endocannabinoid system contribute to age-related impairment of baroreflex sensitivity. *Journal of Cardiovascular Pharmacology*, 2015 Jan 29. [Epub ahead of print] PMID: 25636077
34. Tegeler CH, **Shaltout HA**, Tegeler CC, Gerdes L and Lee SW. Rightward dominance in temporal high frequency electrical asymmetry corresponds to higher resting heart rate and lower baroreflex sensitivity in a heterogeneous population, *Brain and Behavior*, 2015 Jun;5(6): Epub 2015 May 1. PMID: 26085968
35. Jefferson ME, Nicklas BJ, Chmelo EA, Crotts CI, **Shaltout HA**, Diz DI, Marsh AP and Brinkley TE. Effects of resistance training with and without caloric restriction on arterial stiffness in older adults. *American Journal of Hypertension*, 2015 Aug 20. [Epub ahead of print]. PMID: 26297029
36. Fortunato JE, Tegeler CL, Gerdes L, Lee SW, Pajewski NM, Franco ME, Cook JF, **Shaltout HA** and Tegeler CH. Use of an allostatic neurotechnology by adolescents with Postural Orthostatic Tachycardia Syndrome (POTS) is associated with improvements in heart rate variability and changes in temporal lobe electrical activity, *Experimental Brain Research*, 2016 Mar;234(3):791-8. PMID: 26645307
37. Wagoner AL, **Shaltout HA**, Fortunato JE and Diz DI. Distinct neurohumoral biomarker profiles in children with hemodynamically-defined orthostatic intolerance may predict treatment options. *AJP-Heart and Circulatory Physiology*, 2016 Feb 1;310(3):H416-25. PMID: 26608337
38. Nixon PA, **Shaltout HA**, Snively BM, Russell GB, O'Shea TM and Washburn KL. Antenatal steroid exposure and heart rate variability in adolescents born with very low birth weight. *Journal of pediatrics*. *In revision*
39. Schaich CL, Grabenaur M, Thomas BF, **Shaltout HA**, Gallagher P, Howlett AC and Diz DI. Medullary endocannabinoids contribute to the differential resting baroreflex sensitivity in rats with altered brain renin-angiotensin system expression. *Front Physiol Integr Physiol*. *In revision*.
40. South AM, Nixon PA, Chappell MC, Diz DI, Russell GB, Snively BM, **Shaltout HA**, Rose JC, O'Shea TM and Washburn LK. Antenatal Corticosteroids and the Renin-Angiotensin-Aldosterone System in Preterm Adolescents. *Pediatrics*. *In revision*.
41. Washburn LK, , Nixon PA, Snively BM, Russell GB, **Shaltout HA**, South AM and O'Shea TM. Antenatal Corticosteroids and Cardio-metabolic Outcomes in Adolescents Born with Very Low Birth Weight. *The journal of Pediatrics*. *In revision*
42. Tegeler CH, Cook JF, Tegeler CL, Hirsch JR, **Shaltout HA**, Simpson SL, Fidali BC, Gerdes L and Lee SW. Use of an allostatic neurotechnology is associated with symptom reduction, decreased temporal lobe high frequency asymmetry, and increased heart rate variability in individuals with self-reported PTSD. *European Journal of Psychotraumatology*, *In revision*
43. Wagoner AL, **Shaltout HA**, Diz DI and Fortunato JE. Orthostatically-induced Nausea and Altered Neurohumoral Responses in Children with Chronic Nausea. *Gastroenterology*. *In revision*.
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98. Lawson MJ, Figueroa JP, Chappell MC, Diz DI and **Shaltout HA**. Intracerebroventricular (ICV) Infusion of Angiotensin-(1-7) Lowers Blood Pressure and Improves Autonomic Function in Antenatal Betamethasone Exposed Sheep. Accepted for poster presentation at the AHA scientific sessions meeting in Florida, November 2015
99. Duncan AV, **Shaltout HA**, Tommassi EN, Gallagher PE, Tallent EA and Diz DI. Beneficial Cardiovascular Effects of Muscadine Grape Extract in Normotensive Female Rats. Submitted for 2016 Experimental Biology meeting, San Diego CA, April 2016.
100. Hendricks AS, **Shaltout HA**, Chappell MC and Diz DI. Sex specific differences in key signaling pathways involved in autonomic nervous system control within the dorsal medulla of adult sheep with fetal betamethasone exposure. Accepted for oral talk at 2016 Experimental Biology meeting, San Diego CA, April 2016.
101. Tegeler CH, Tegeler CL, Cook JF, Lee SW, **Shaltout HA**, Laurienti PJ. Military personnel with traumatic stress show changes in large-scale brain networks after use of a closed-loop neurotechnology. Accepted for oral presentation at the American Academy of Neurology meeting. Vancouver Canada. April 15-21, 2016.
102. Tegeler CH, Tegeler CL, Cook J, Howard L, Lee S, **Shaltout HA**. Durability of symptom reductions associated with use of HIRREM by military personnel with traumatic stress. Accepted for oral presentation at the American Academy of Neurology meeting. Vancouver Canada. April 15-21, 2016.
103. Tegeler CL, **Shaltout HA**, Lee S, Tegeler CH. Military personnel with traumatic stress demonstrate improved autonomic cardiovascular regulation after use of a closed loop neurotechnology. Accepted for poster presentation at the American Academy of Neurology meeting. Vancouver Canada. April 15-21, 2016.

ORAL PRESENTATIONS

Shaltout HA, Abdel-Rahman AA. Cyclosporine induces progressive attenuation of baroreceptor responsiveness in conscious unrestrained rats. Eleventh annual research day, March 2002.

Shaltout HA, Figueroa JP, Rose JC, Chappell M, Diz DI and Averill DB. Antenatal betamethasone causes angiotensin II-mediated impairment of cardiovascular function. 60th Annual High Blood Pressure Research Conference, Austin TX, Oct 2006.

Shaltout HA, "Hypertension: the silent killer". At the Egyptian Pharmacy Syndicate lecture series. Alexandria, Egypt, August 2007.

Shaltout HA, Figueroa JP, Rose JC, Diz DI and Chappell MC. Reduced Renal ACE2 in Fetal Programmed Hypertension. 62nd Annual High Blood Pressure Research Conference, Atlanta, GA, Oct 2008.

Annual talks to the perinatal group at Perinatal Research Conference (2006-current) and the Hypertension and Vascular Research Center Seminar Series (2005-present)

Invited speaker at 2014 APS workshop "Translation of Cardiovascular Endpoints Across Species" Experimental Biology 2014, San Diego CA

Invited speaker at 2014 ASPET symposium “Fetal programming and cardiovascular disease” Experimental Biology 2014, San Diego CA

Invited speaker at the Department of Physiology and Pharmacology graduate students seminar series, November 2014

Invited speaker at the Department of Obstetrics and Gynecology grand rounds, November 2014

STUDENTS ADVISED:

2006	Aadil Lodhi, undergraduate student. Excellence in Cardiovascular Sciences
2007	Osama Harazz, master student, School of Pharmacy, Alexandria University
2008	Solnice Aliche, undergraduate student. Excellence in Cardiovascular Sciences
2009	Leandro Dias, undergraduate student, Brazil Consortium Biomedical Exchange
2009	Danielle Dias, undergraduate student, Brazil Consortium Biomedical Exchange
2010	Allison Arter, PhD student, laboratory rotation
2010	Daniel Lima, PhD student, Brazil Consortium Biomedical Exchange
2011	Allyson Marshall, PhD student, laboratory rotation
2011	Darrica Byrd, undergraduate student, Excellence in Cardiovascular Sciences
2011	Chris Schaich, PhD Committee starting August 2011
2012	Allyson Marshall, PhD Committee starting November 2012
2013	Kareem Samy, master student, School of Pharmacy, Alexandria University
2014	Mathew L. Lawson, Postbaccalaureate Research Education Program
2014	Jin Zhang, undergraduate student at Wake Forest University
2015	Ashley Wagoner, PhD committee starting January 2015
2015	Alexa Hendrix, neuroscience program, PhD committee member
2016	Adrienne Adler, MD PhD student.