

BIOGRAPHICAL SKETCH

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NAME John E. Hall		POSITION TITLE Arthur C. Guyton Professor and Chair	
eRA COMMONS USER NAME johnehall			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Kent State University, Kent, OH	B.S.	1964-68	Biology & Chemistry
U.S. Army, Engineering School, Ft. Belvoir, VA		1968-70	Engineering/Electronics
Michigan State University, E. Lansing, MI	Ph.D.	1970-74	Physiology
University of Mississippi Medical Center	Postdoc	1974-76	Physiology

A. Personal Statement.

My major research interests include obesity and metabolic disorders, cardiovascular and renal disease, mechanisms of hypertension, mathematical modeling and systems analyses. Recent research in our lab has focused on obesity and target organ injury, central nervous system mechanisms of obesity-induced hypertension, and how the molecular signaling pathways that regulate appetite, energy expenditure and sympathetic activity are altered in obesity. Our lab uses genetic, molecular, and integrative physiological approaches in our research studies. I have mentored over 125 postdoctoral fellows, graduate students, medical students and undergraduate students, and many of the trainees from our lab have become leaders in cardiovascular research, academia, and industry

B. Professional Experience

1976-79	Assist. Prof., Physiology Dept., Univ. of Mississippi Med. Ctr.
1979-82	Assoc. Prof., Physiology Dept., Univ of Mississippi Med. Ctr.
1980-93	Director of Graduate Program, Physiol. Dept., Univ. of Mississippi Med. Ctr.
1982-88	Professor, Physiology Dept., Univ. of Mississippi Med. Ctr.
1988-89	Vice-Chair, Physiology Dept., Univ. of Mississippi Med. Ctr.
1989-Present	Arthur C. Guyton Professor and Chair, Physiology Dept., Univ. of Mississippi Med. Ctr.
1996-2008	Founding Director, Center of Excellence in Cardiovascular-Renal Research
2005-2013	Associate Vice Chancellor for Research
2013-Present	Founding Director, Mississippi Center for Obesity Research

C. Honors, Advisory Committees, Editorships (Selected)

1979-1984	National Institutes of Health Research Career Development Award
1979	Ernest G. Spivey Research Award, AHA
1984	Harry Goldblatt Award, Council for High Blood Pressure. Research, AHA
1988	The First Young Scholars Award, The American Society of Hypertension
1990-1996	Associate Editor, Am. J. Physiol.: Regulatory, Integrative, and Comparative Physiol.
1990-1994	NIH Cardiovascular and Renal Study Section Member
1991-1994	Chair, Water and Electrolyte Homeostasis Section, American Physiological Society
1991, 1997-2003	Executive Council, The American Physiology Society
1992	Lewis K. Dahl Award, American Heart Association
1993-1996	Frederick A.P. Barnard Distinguished Professor, University of Mississippi
1994-2003	Executive Council, AHA Council for High Blood Pressure Research
1994-2001	Executive Council, American Society of Hypertension
1996-2002	Chief Editor, Am. J. Physiol.: Regulatory, Integrative, and Comparative Physiol.
1996	Special Research Achievement Award, American Heart Assoc., MS
1996-2006	Billy S. Guyton Distinguished Professor, University of Mississippi

Principal Investigator/Program Director (Last, First, Middle): Hall, John E.

1996-2002 Chair-Elect, Chair, Past-Chair, Council for High Blood Pressure Research, AHA
1997-2000 SAC Chair, American Physiological Society
1998 International Award for Research Excellence, International Society of Hypertension
1998 Ernest H. Starling Distinguished Lectureship and Award, Am. Physiological Society
2000-2003 President-Elect, President, Past-President, American Physiological Society
2000-2001 Chair, Committee of Scientific Councils, Science Advisory and Coordinating Committee, National Board of Directors, AHA
2000 Burroughs Wellcome Fund Professor in Basic Medical Sciences
2000 Richard Bright Award, American Society of Hypertension
2001-2003 President, Inter-American Society of Hypertension
2002-2010 Executive Council, International Society of Hypertension
2002-2012 Editor-in-Chief, *Hypertension*, American Heart Association
2002 Novartis Award for Hypertension Research, Council for High Blood Pressure Research, American Heart Assoc.
2003 Lifetime Achievement Award, COSEHC
2005 Executive Council, Treasurer, International Union of Physiological Sciences
2005-2006 Carl G. Evers "All Star" Professor, selected by medical students of UMMC
2005 A. Ross McIntyre Award, University of Nebraska
2005 Distinguished Achievement Award, American Heart Assoc., Council for High Blood Pressure Research
2006 British Medical Association Book Competition Award, Basic and Clinical Sciences, for *Textbook of Medical Physiology*, 11th edition
2007 Inducted into Norman C. Nelson Order for teaching excellence UMMC
2006 Mayerson-DiLuzio Memorial Lecture, Tulane School of Medicine
2007 Presidential Lecture, Canadian Society of Hypertension
2009 Lifetime Achievement Award, Inter-American Society of Hypertension
2010 James O. Davis Graduate Distinguished Lecturer, University of Missouri at Columbia, College of Medicine
2010 Joseph Dvorkin Memorial Lecture, University of Alberta Cardiovascular Research Centre
2012 Excellence Award, Mississippi Technology Alliance, and inducted into Mississippi Innovators Hall of Fame
2012 International Society of Hypertension Franz Volhard Award and lectureship for Outstanding Research
2013 Doctor Honoris Causa, Grigore T. Popa Universitatea De Medicina Si Farmacie, Iasi, Romania
2013 Distinguished Alumnus Award and inducted into Hall of Fame, Kent State University
2013 Sir George Pickering Lecture, British Hypertension Society
2013-2014 Southeastern Conference Faculty Achievement Award, University of Mississippi
2014 Southeastern Conference Professor of the Year Award
2014 International Society of Hypertension Distinguished Member Award
2015 Joy Goodwin Distinguished Lectureship, Auburn University
2015 John D. Bower M.D. Distinguished Lectureship, University of Virginia School of Medicine
2015 Visitante Ilustre de Facultad de Medicina de la Universidad Nacional de Tucuman, Argentina
2015-2016 Carl G. Evers "All Star" Professor, selected by medical students of UMMC
2015 Award of Meritorious Achievement of the American Heart Association
2015 Distinguished Service Award, Association of Chairs of Departments of Physiology
2006 British Medical Association Book Competition Award, Basic and Clinical Sciences, for *Textbook of Medical Physiology*, 13th edition
2016 Thomas G. Muldoon Memorial Lectureship, Medical College of Georgia, Augusta University
2016 The Clifford V. and Drusilla R. Harding Memorial Lecture, Oakland University
2016 Ray G. Daggs Award, American Physiological Society
2017-2017 Carl G. Evers Basic Science Professor of the Year, selected by medical students of UMMC

D. Selected publications (selected from more than 580 publications and 21 books).

1. Carlyle ME, Jones OB, Kuo JJ, Hall JE. Chronic cardiovascular and renal actions of leptin: role of adrenergic activity. *Hypertension* 2002;39: 496-501.
2. Hall JE. What can we do about the "epidemic" of obesity? *Am. J. Hypertension* 2002;15:657-659.
3. Hall JE, Crook ED, Dubbert PM, Jones DW, Wofford MR. Mechanisms of obesity-associated cardiovascular and renal disease. *Am. J. Med. Sci.* 2002;324:127-137.
4. Kuo, J.J., A.A. Silva, and J.E. Hall. Hypothalamic melanocortin receptors and chronic regulation of arterial pressure and renal function. *Hypertension* 41: 768-774, 2003.
5. Hall, J.E., J.J. Kuo, A. da Silva, R. DePaula, J. Liu, and L. Tallam. Obesity, hypertension and renal disease. *Curr. Opinions Nephrology & Hypertension* 12:195-200, 2003.
6. Hall, J.E. The kidney, obesity, and hypertension. *Hypertension* 41: 625-633, 2003.
7. Hall, J.E., D.W. Jones, J. Henegar, T.M. Dwyer, and J. Kuo. Obesity hypertension, and renal disease. In: *Obesity: Mechanisms and Clinical Management*. Ed. R.H. Eckel, Lippincott, Williams & Wilkins, Philadelphia, 2003. P. 273-300.
8. Kuo, J.J., O.B. Jones, and J.E. Hall. Chronic cardiovascular and renal actions of leptin during hyperinsulinemia. *Am. J. Physiol.* 284: R1037-R1042, 2003.
9. Hall, J.E., D.W. Jones, J.J. Kuo, A. da Silva, L. Tallam, and J. Liu. Impact of the obesity epidemic on hypertension and kidney disease. *Current Hypertension Reports* 5: 386-392, 2003.
10. Jones, D.W., J.E. Hall. JNC-7 and evidence from new hypertension trials. *Hypertension* 43:1-3, 2004.
11. DePaula, R.B., A. A. daSilva, and J.E. Hall. Aldosterone antagonism attenuates obesity-induced hypertension and glomerular hyperfiltration. *Hypertension* 43:41-47, 2004.
12. Jones, D.W., J.E. Hall. JNC-7 and evidence from new hypertension trials. *Hypertension* 43: 1-3, 2004.
13. Salahudeen, A.K., E.H. Fleischmann, J.D. Bower, and J.E. Hall. Underweight rather than overweight is associated with higher prevalence of hypertension: BP vs BMI in haemodialysis population. *Nephrol Dial Transplant.* 19: 427-432, 2004.
14. Hall, J.E., J.R. Henegar, T.M. Dwyer, J. Liu, A.A. da Silva, J.J. Kuo, and L. Tallam. Is obesity a major cause of chronic renal disease? *Advances in Renal Replacement Therapy* 11: 41-54, 2004.
15. da Silva, A.A., J.J. Kuo, L.S. Tallam, and J.E. Hall. Role of endothelin-1 in blood pressure regulation in a rat model of visceral obesity and hypertension. *Hypertension* 43: 383-387, 2004.
16. Kuo, J.J., A.A. da Silva, L.S. Tallam, and J.E. Hall. Role of adrenergic activity in pressor responses to chronic melanocortin receptor activation. *Hypertension* 43: 370-375, 2004.
17. Davy, K.P. and J.E. Hall. Obesity and hypertension: two epidemics or one? *Am. J. Physiol.* 286: R803-R813, 2004.
18. daSilva, A.A., J.J. Kuo, and J.E. Hall. Role of hypothalamic melanocortin 3/4 receptors in mediating the chronic cardiovascular, renal, and metabolic actions of leptin. *Hypertension* 43: 1312-1317, 2004.
19. Gu, J.W., J. Wang, A. Stockton, B. Lokitz, L. Henegar, J.E. Hall. Cytokine gene expression profiles in kidney medulla and cortex of obese hypertensive dogs. *Kidney Internat.* 66: 1-9, 2004.
20. Philip-Couderc, P., F. Smih, J.E. Hall, A. Patul, J. Roncalli, P. Massabuau, M. Galinier, J.M. Senard, and P. Rouet. Kinetic analysis of cardiac transcriptome regulation during chronic high fat diet in dogs. *Physiol. Genomics* 19:32-40, 2004.
21. Wofford MR, Hall JE. Pathophysiology and treatment of obesity hypertension. *Current Pharmaceutical Design* 10: 1-17, 2004.
25. Tallam, L.S., J.J. Kuo, A.A. daSilva, and J.R. Hall. Cardiovascular, renal and metabolic responses to chronic central administration of agouti related peptide. *Hypertension* 44: 853-858, 2004.
26. Gu, J-W., L. Fortepiani, J.F. Reckelhoff, T.H. Adair, J. Wang, and J.E. Hall. Increased vascular endothelial growth factor and capillary density in hearts of spontaneously hypertensive rats. *Microcirculation* 11: 689-697, 2004.
27. Hall, J.E. The pioneering use of systems analysis to study cardiac output regulation. *Am. Physiol. Society Classics Essay. Am. J. Physiol.* 287: R1009-R1011, 2004.
28. Pickering, T.G., J.E. Hall, L.J. Appel, B.E. Falkner, J Graves, M.N. Hill, D.W. Jones, T.W. Kurtz, S.G. Sheps, E.J. Roccella. Recommendations for measuring blood pressure in humans and animals. Part 1. Blood pressure measurement in humans. *Hypertension* 45: 142-161, 2005.
29. Kurtz, T.W., K.A. Griffin, A.K. Bidani, R.L. Davisson, and J.E. Hall. Recommendations for measuring blood

- pressure in humans and animals. Part 2. Blood pressure measurement in animals. *Hypertension* 45: 299-310-2005.
30. Tallam, L.S. D.E. Stec, M.A. Willis, A.A. daSilva, and J.E. Hall. Melanocortin-4 receptor deficient mice are not hypertensive or salt-sensitive despite obesity, insulin resistance and hyperleptinemia. *Hypertension* 46: 326-332, 2005.
 31. Vachharajani, V.T., J.M. Russell, K.L. Scott, S. Conrad, K.Y. Stokes, , L. Tallam, J.E. Hall, D.N. Granger. Obesity exacerbates sepsis-induced inflammation and microvascular dysfunction in mouse brain. *Microcirculation* 12:183-194, 2005.
 32. Hall, J.E., D.W. Jones, J.J. Kuo, A.A. da Silva, J. Liu, and L.Tallam. Obesity and hypertension: impact on cardiovascular and renal disease. In: *Hypertension – a Companion to Brenner and Rector’s The Kidney*. Eds. S. Oparil and M. Weber. Elsevier Science, Philadelphia. 2005, pp. 464-474.
 33. Liu, J. A.A. daSilva, L. Tallam, and J.E. Hall. Chronic CNS hyperinsulinemia and regulation of arterial pressure and food intake. *J. Hypertension* 24:1391-1395, 2006.
 34. daSilva, A.A., J.J. Kuo, L.S. Tallam, J. Liu, and J.E, Hall. Does Dietary-Induced Obesity Induce “Resistance” to the Long-term Cardiovascular and Metabolic Actions of Hypothalamic Melanocortin 3/4 Receptor Activation? *Hypertension* 47:259-264, 2006.
 35. Tallam, L.S. A.A. daSilva, and J.E. Hall. Melanocortin-4 Receptor Mediates Chronic Cardiovascular and Metabolic Actions of Leptin. *Hypertension*. *Hypertension* 48: 58-64, 2006.
 36. daSilva, A.A., L.S. Tallam, J. Liu, and J.E. Hall. Chronic antidiabetic and cardiovascular actions of leptin: role of CNS and increased adrenergic activity. *Am. J. Physiology* 291: R1275-R1282, 2006.
 37. Hall, J.E., A. A. da Silva, E. Brandon, D.E. Stec, Z.Ying, and D.W. Jones. Pathophysiology of obesity hypertension and target organ injury. In: *Comprehensive Hypertension*. Eds. Lip, G.Y.P. and J.E. Hall. Elsevier, New York, N.Y., 2007. pp. 447-468.
 38. Jones, D.W. and J. E. Hall. World Hypertension Day 2007. *Hypertension* 49: 939-940, 2007.
 39. Granger, J.P. and J. E. Hall. Role of the Kidney Sodium and Fluid Excretion in Hypertension. In: *Comprehensive Hypertension*. Eds. Lip, G.Y.P. and J.E. Hall. Elsevier, New York, N.Y., 2007. pp. 241-263.
 40. Hall, J. E., J.P. Granger, M.E. Hall, and D.W. Jones. Pathophysiology of hypertension. In: *Hurst’s The Heart, 12th ed.* Eds. V. Fuster, R.A. O’Rourke, R.A. Walsh, P.A. Poole-Wilson. McGraw-Hill Medical, New York, 2007. pp. 1570-1608.
 41. Hester, R.L. and J.E. Hall. Local autoregulation of blood flow. In: *Hypertension Primer, 4th edition*, American Heart Assoc. Eds. J. L. Izzo Jr. and H. C. Black. 2008. pp. 129-132.
 42. Coleman, T.G. and J.E. Hall. Systemic hemodynamics and regional blood flow regulation. In: *Hypertension Primer, 4th edition*, American Heart Assoc. Eds. J. L. Izzo Jr. and H. C. Black. 2008. pp. 132-135.
 43. da Silva, A.A., J.M. do Carmo, B. Kanyicska, J. Dubinon, E. Brandon, and J.E. Hall. Endogenous melanocortin system activity contributes to the elevated arterial pressure in spontaneously hypertensive rats. *Hypertension* 51:884-890, 2008.
 44. Hall, J.E., J.P. Granger, J.F. Reckelhoff, and K. Sandberg. Hypertension and cardiovascular disease in women. *Hypertension*: 51: 951, 2008.
 45. Jones, D.W. and J.E. Hall. Hypertension: pathways to success. *Hypertension* 51:1249-1251, 2008.
 46. DoCarmo, J., A.A da Silva, and J.E. Hall. Chronic central leptin infusion restores cardiac sympathetic-vagal balance and baroreflex sensitivity in diabetic rats. *Am J Physiol Heart Circ Physiol*. 295:H1974-1981, 2008.
 47. Hall, M.E., J.E. Hall, J.P. Granger, D.W. Jones. Systemic hypertension: pathogenesis and etiology. In: *Hurst’s The Heart Manual of Cardiology, 12th ed.* Eds. R.A. O’Rourke, R.A. Walsh, V. Fuster. McGraw-Hill Medical, New York, 2009. pp 339-350.
 48. daSilva AA, doCarmo J, Dubinon J, Hall JE. Role of the sympathetic nervous system in obesity-related hypertension. *Current Hypertension Reports* 2009; 11: 206-211.
 49. do Carmo JM, Tallam LS, Roberts JV, Brandon EL, Biglane J, daSilva AA, Hall JE. Impact of obesity on renal structure and function in the presence and absence of hypertension: Evidence from melanocortin 4-receptor deficient mice. *Am J Physiol Regul Integr Comp Physiol*. 2009; 297: R803-R812.
 50. daSilva AA, doCarmo JM, Freeman JN, Tallam LS, Hall JE. A functional melanocortin system is required for CNS mediated chronic antidiabetic and cardiovascular actions of leptin. *Diabetes* 2009; 58:1749-1756.
 51. Brandon, EL, Gu JW, Cantwell L, He Z, Wallace G, Hall JE. Obesity promotes melanoma tumor growth: role of leptin. *Cancer Biology & Therapy* 2009; 8: 1-9.
 52. Hall JE, daSilva AA, doCarmo JM, Dubinon J, Hamza S, Munusamy S, Smith G, Stec D. Obesity-induced hypertension: role of sympathetic nervous system, leptin and melanocortins. *J Biol Chem* 2010; 285: 17271-17276.

53. Dubinion J, daSilva AA, Hall JE. Enhanced blood pressure and appetite responses to chronic central melanocortin 3/4 receptor blockade in dietary-induced obesity. *J Hypertension* 2010; 28:1466-1470.
54. Hall JE, Granger JP, Jones DW, Hall ME. Pathophysiology of hypertension. In: Hurst's The Heart, 13th ed., Eds. V. Fuster, R.A. O'Rourke, R.A. Walsh, P.A. Poole-Wilson. McGraw-Hill Medical, New York, 2011. pp 1549-1584.
55. Appel LJ, Frohlich E, Hall JE, Pearson T, Sacco R, Seals D, Sacks F, Vafiadis DK, Van Horn L. The Importance of Population-wide Sodium Reduction as a Means to Prevent Cardiovascular Disease and Stroke: A Call-to-Action from the American Heart Association. *Circulation* 2011; 123: 1138-1143.
56. do Carmo JM, Bassi M, da Silva AA, Rushing J, Hall JE. Systemic but not central nervous system nitric oxide synthase inhibition exacerbates the hypertensive effect of chronic melanocortin 3/4 receptor activation. *Hypertension* 2011; 57: 428-434
57. Dubinion JH, da Silva AA, Hall JE. Chronic blood pressure and appetite responses to central leptin infusion in rats fed a high fat diet. *J Hypertension* 2011; 29: 758-762.
58. do Carmo JM, da Silva AA, Cai Z, Dubinion JH, Hall JE. Control of arterial pressure, appetite and glucose by leptin in mice lacking leptin receptors in POMC neurons. *Hypertension* 2011; 57: 918-926.
59. Hall ME, Smith G, Hall JE, Stec DE. Systolic dysfunction in cardiac specific ligand inducible MerCreMer transgenic mice. *Am J Physiol Heart Circ Physiol.* 2011; 301: H253-H260. PMID:21536850
60. Kelsen S, Hall JE, Chade AR. Endothelin-A receptor blockade slows the progression of renal injury in experimental renovascular disease. *Am J Physiol Renal* 2011; 301: F218-F225. PMID:21478482
61. Maric C, Hall JE. Obesity, metabolic syndrome and diabetic nephropathy. *Contrib Nephrol.* 2011;170:28-35. PMID:21659755
62. Hall JE. Hypertension Update 2011. *Hypertension* 2011; 58: 975-977
63. do Carmo JM, da Silva AA, Rushing JS, Hall JE. Activation of central melanocortin system contributes to increased arterial pressure in obese Zucker rats. *Am J Physiol Regul Integr Comp Physiol* 2012; 302: R561-R567. PMID: 2220457
64. Fu Y, Hall JE, Lu D, Manning RD, Gomez-Sanchez CE, Juncos LA, Liu R. Aldosterone blunts tubuloglomerular feedback by activating mineralocorticoid receptors. *Hypertension* 2012; 59: 599-606. PMID: 22311906.
65. do Carmo JM, da Silva AA, Morgan J, Wang YX, Hall JE. Inhibition of soluble epoxide hydrolase reduces food intake and increases metabolic rate in obesity. *Nutrition, Metabolism and Cardiovascular Disease.* 2012; 22: 598-604. PMID:21190818
66. Bassi M, Giust H, Leite CM, do Carmo JM, da Silva AA, Hall JE, Columbari E, Glass ML. Central leptin replacement enhances the chemo-respiratory leptin-deficient mice. *Pflugers Archiv – European Journal of Physiology* 2012; 464:145-153. PMID: 22585210
67. Hamza SM, Hall JE. Direct recording of renal sympathetic nerve activity in unrestrained conscious mice. *Hypertension* 2012; 60:856-864. PMID: 22851730
68. Bassi M, di Carmo JM, Hall JE, da Silva AA. Chronic effects of centrally administered adiponectin on appetite, metabolism and blood pressure regulation. *Peptides* 2012; 37: 1-5. PMID: 22749987
69. Hall JE, Granger JP, do Carmo JM, da Silva AA, Dubinion J, George E, Hamza S, Speed J, Hall ME. Hypertension: physiology and pathophysiology. *Comprehensive Physiology* 2012; 2: 2393-2442.
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72. Hall JE, Granger JP, Hall ME. Physiology and pathophysiology of hypertension. In: Seldin and Giebisch's The Kidney, 5th edition: Physiology & Pathophysiology. Eds. RJ Alpern, OW Moe, M Caplan. Elsevier/Academic Press, 2013. pp 1309-1352.
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92. Henegar JR, Zhang Y, Hata C, Narcisco I, Hall ME, Hall JE. Catheter-based radiofrequency renal denervation: location effects on renal norepinephrine. Am J Hypertens. 2015; 28: 909-914. PMID: 25576624

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| P01 HL51971
NIH/NHLBI
Cardiovascular Dynamics and their Control
The major long-term goal of this project is to develop a quantitative analysis of circulatory dynamics and related control systems, including the kidneys, sympathetic nervous system and endocrine systems. | (J.E. Hall, Principal Investigator) | 08/01/2014-07/31/2019 |
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